PARTNER PROJECT AGREEMENT P531

between

U.S. Department of Health and Human Services / Biotechnology Engagement Program ,

the Science and Technology Center in Ukraine

and

L. Sakvarelidze National Center for Disease Control and Public Health

Kyiv

Operative Commencement Date: _____

The Science and Technology Center in Ukraine (STCU) (hereinafter referred to as **"the Center"**),
the U.S. Department of Health and Human Services / Biotechnology Engagement Program (hereinafter referred to as **" the Partner"**), and
the leading Institution L. Sakvarelidze National Center for Disease Control and Public Health,

(hereinafter referred together as **"the Recipient(s)"**)
represented for the purpose of the signature of this Partner Project Agreement (hereinafter referred to as **"the Agreement"**) by their authorized representatives, (with the Center, the Partner, and the Recipient(s) hereinafter referred to collectively as **"the Signatory Parties"**),

TAKING INTO ACCOUNT THE FOLLOWING CONSIDERATIONS:

The United States of America, Canada, Sweden and Ukraine signed the agreement establishing the Science and Technology Center in Ukraine on October 25, 1993 (referred to as **"the STCU Agreement"**),

The European Union has acceded to the STCU Agreement on November 26, 1998, and in so doing, replaced Sweden as a Party to the Agreement,

Additional States may accede to the STCU Agreement to participate in the activities of the Center. Georgia acceded to the STCU Agreement on March 18, 1998; Uzbekistan acceded to the STCU Agreement on December 29, 1997, Azerbaijan acceded to the STCU Agreement on June 27, 2003, Moldova acceded to the STCU Agreement on December 7, 2004),

The Center is a legal entity and has been accredited by the Ministry of Foreign Affairs of Ukraine as an intergovernmental organization with its headquarters in Kiev,

The Partner, established under the law of United States of America is a legal entity that has been approved by the Center's Governing Board to participate in Center activities,

The Recipient(s) is a legal entity within Georgia,

The Governing Board of the Center approves a project to be funded by the Partner through the Center in the domain covered by the Agreement,

The Partner has agreed to provide financial support for such project,

As set forth in the STCU Agreement, funds received by a legal entity in connection with the Center's projects shall be excluded in determining the profits of that organization for the purpose of tax liability, and funds received by persons in connection with the Center's projects shall not be included in these persons' taxable incomes,

HAVE AGREED AS FOLLOWS:

Article 1 - Scope of the Agreement

The Recipient(s) shall carry out the work plan set forth in Annex 1 according to the conditions of the Agreement, subject to the provisions of the STCU Agreement, and the Statute of the Center (hereinafter referred to as **"the STCU Statute"**) which govern in case of conflict. The activities carried out under the Agreement are entitled Comparison of different diagnostic methods for identification of active tuberculosis among HIV infected patients (hereinafter referred to as **"the Project"**). The scopes of work and relevant budget lines for each recipient entity are identified in the Annex 1. All Project Activities subject to this Agreement are to be executed by the Recipient(s), using only funding provided by the Center and/or sources approved by the Center. The Recipient Entity(ies) shall notify the Center immediately if it and /or other participating institutions determine at any time to utilize any other funding sources to execute such Project activities.

Article 2 - Duration of the Project

The duration of the Agreement shall be from the date of entry into force of the Agreement (hereinafter referred to as "the Operative Commencement Date") until completion of the Agreement. Subject to the applicable requirements in Article 6 "Audit and Monitoring of the Agreement", Article 7, "Ownership and Exploitation of Results from the Agreement," and Annex III herein, the Agreement shall be deemed to have been completed upon approval by Partner of all deliverables required by the Agreement and final payment to Recipient or termination of the Agreement pursuant to Article 11 herein, whichever is earlier. The duration of the Agreement is estimated to be 12 months.

Article 3 - Financial Contribution of the Partner through the Center

3.1 The total cost of the Project to the Center shall not exceed 50000$. This total includes the cost of items described in Articles 3.2, 3.3, and 3.4 below.

3.2 The Center shall pay for items ordered by the Recipient, represented by the project manager: equipment, materials, subcontracts, other direct costs, and travel. The amount of such payments is estimated to be 29990$.

3.3 The Center shall make grant payments directly to individual participants in the Project. The amount of such payments is estimated to be 20010$. This total amount may be increased with the concurrence of the Partner and Center provided that such increase results from additional time worked on the project, rather than an increase in the rate of pay, and an offsetting reduction is made to the cost of items in article 3.2.

3.4 The Center will pay overhead to the Recipient(s), represented by its Director(s), in the amount of 0% of the direct project costs.

3.5 The Center will receive a fee for its service in the amount of 0% of the total project costs. This amount should be calculated in addition to the total cost of the project.

3.6 The Partner will deposit to Center's account the entire amount of its commitment, equal to 50000$ that is the total cost of the project plus STCU's fee, in accordance with Articles 3.1, 3.5, and Article 7 of Annex 2.

3.7 Within Ukraine, all cash payments will be made in the national currency of Ukraine. Conversion of US dollars to the national currency of Ukraine will be according to the exchange rate of the Interbank Rate of Ukraine. Within Georgia, Uzbekistan, Azerbaijan, and Moldova all cash payments will be made in U.S. Dollars or Euros where possible.

3.8 Title to the property purchased for performance of this Agreement in accordance with Article 3.2 shall be determined in Annex 1 by applying one of the following clauses:

3.8.1 title will vest in the participation institution at the time of delivery or

3.8.2 title will remain with the Center until termination or completion of the project, at which time title will be vested in accordance with Article 8 - Special Conditions or following to additional agreement between the STCU, Partner and Recipient(s) replacing Special Conditions.

3.9 Title to any goods (deliverables) purchased by Partner under this Agreement shall pass directly from Recipient to Partner at the time of delivery, subject to Partner's right of rejection upon inspection.

Article 4 - Cost Statements, Reports, and other Project Outputs

Quarterly cost statements shall be submitted by the Recipient to the Center. The quarterly cost statements will include a representation that all projects activities conducted by the Recipient during the preceding quarter were funded only with funding provided by the Center and that no other source of funding was utilized in carrying out such activities.

Quarterly progress reports shall be submitted by the Recipient to the Center, to the Partner and/or to the Technical Monitor as designated by the Partner and identified in Annex I - Work Plan (in English and Ukrainian (optional) or Russian (optional, if the project is located only in other CIS states)), in hard copy and in electronic format in accordance with Annex 3 - Reports. The format of the cost statements and quarterly progress reports will be provided by the Center.

Technical reports and other deliverables that are requested by the Partner shall be submitted by the Recipient to the Partner and/or Technical Monitor in accordance with Annex I and Annex III.

Article 5 - Confidentiality

5.1 All reports or portions of reports properly marked as invention information or Business Confidential Information by the Recipient in consultation with the Partner shall be protected from public dissemination unless otherwise agreed by the Recipient(s) and the Partner.

5.2 Subject to any obligations under this Agreement and in accordance with applicable laws and regulations, the Signatory Parties agree to keep confidential any invention information or Business Confidential Information communicated to them by other Signatory Parties or third parties in relation to the execution of this Agreement, unless such information so disclosed is or becomes legitimately available to the receiving Signatory Party through other sources without any covenant as regards its confidentiality.

Article 6 - Auditing and Monitoring

6.1 Access by the Center and the Partner, through the Center, to the project site to carry out on-site monitoring, for the evaluation and the verification of the progress of the Project activities, and to do audits of costs shall be granted by the Recipient(s) including access to (a) portions of facilities where the Project is being carried out and to all equipment, documentation, information, data systems, materials, supplies, personnel, and services which concern the Project, and (b) technical and cost information concerning the management and progress of the Project.

6.2 The Center will give the Recipient(s) up to 10 days advance notice of any intended on-site monitoring of the project.

6.3 The Recipient(s) has the right to protect those portions of facilities that are not related to the Project.

6.4 All documentation and records, including those associated with equipment, data systems, materials, supplies, and services utilized on the project must be maintained and made available for review by the Center, the Partner, or their representatives, for up to two years following the project's completion or termination.

Article 7 - Ownership and Exploitation of Results

7.1 The allocation of intellectual property arising from this Agreement and the responsibilities for protecting and exploiting such intellectual property should be established between the Recipient(s) and the Partner or Technical Monitor, on behalf of the Partner, in the form of Annex 4.

7.2 Exploitation of results shall be limited to applications for peaceful purposes. In this regard, the Recipient(s) and the Partner shall ensure that any results which could result in concerns over proliferation of weapons technology and transfer of sensitive technologies will be protected in accordance with relevant laws of Georgia, and international agreements and conventions to which Georgia, is a party.

Article 8 - Special Conditions

8.1 The special conditions specified in this Article shall prevail over other conditions specified in the Agreement.

8.2 Partner, upon agreement with Center and Recipient(s), may at any time, by written notice, make changes within the scope of this Agreement. If any such change causes an increase or decrease in the cost of, or the time required for, performance of any part of the work under this Agreement, whether or not changed by the order, or otherwise affects any other terms and conditions of this Agreement, Partner shall make an equitable adjustment in the Project Price, the delivery schedule, or both, and shall modify the Agreement.

Article 9 - Liability

9.1 The Signatory Parties accept the project team for the execution of the project and accept the project manager as the leader of the project team. The project manager shall be responsible for scientific, technical, personnel and financial activities related to the project, and shall have exclusive rights to handle all goods and services related to the project during its term. The director(s) of the institution(s) is liable for provision of general administrative and legal support to the project manager in connection with the execution of the Agreement.

9.2 The Center shall not be liable for nonperformance by the Partner or the Recipient(s) of their obligations under the Agreement.

9.3 The Center and Partner shall not be liable for any material loss, damage, or injury of any nature arising from, or in connection with, the performance of the work under the Agreement.

Article 10 - Disputes

Disputes arising during performance of the Agreement including, in particular, (1) a claim by the Recipient(s) for any payments deemed due; (2) an interpretation of a provision of the Agreement; or (3) a request for relief or approval related to the Agreement, shall be subject to the following procedure.

The Recipient(s) shall submit any claim, demand, or request in writing to the Partner and to the Center. The Partner and the Center will prepare a joint response. The written decision of the Partner and the Center shall be delivered to the Recipient(s) within four weeks of the receipt of the submission.

Exceptionally, the Recipient(s) may appeal the Partner's and Center's decision in writing through the Executive Director of the Center to the Governing Board of the Center within four weeks of the communication of the Partner's and Center's decision.

The decision of the Governing Board shall be final and binding (unless otherwise provided). Pending the final settlement of disputes, the Recipient(s) shall, nevertheless, proceed diligently with the performance of the Agreement.

Article 11 - Suspension and Termination of the Agreement

11.1 Each Signatory Party shall reserve the right to suspend the Project or its part by issuing to the other Signatory Parties a notification of suspension which specifies the problem, the effective

date, and the period of the suspension.

11.2 When the Project is suspended by the Center, and the period of the suspension expires and the Center and the Recipient are unable to find a solution, the Center shall, in consultation with the Partner, terminate the Project or a part of the Project.

11.3 When the Project is suspended by the Recipient, and the period of the suspension which is specified in the Recipient's notification expires and the Recipient and the Center are unable to find a solution, the Recipient shall terminate the Project.

11.4 Notwithstanding the termination, the Recipient shall submit reports and cost statements covering the period up to the termination and the following provisions of the Agreement shall continue to apply: Article 7, Article 10, and Annex 2.

11.5 When Force Majeure situations occur which make the Project implementation impossible, the Center in consultation with the Partner and the Recipient(s) may terminate the Project with application of similar procedures as specified above.

11.6 When the Recipient(s) has committed actions which obviously violate the national laws of the Georgia, or which obviously are contrary to the objectives specified under the STCU Agreement, the Center shall terminate the Project with immediate effectiveness upon written notification of termination to the Recipient. In this case, the Recipient(s) shall promptly return to the Center all payments and goods previously provided to the Recipient(s).

Article 12 - Amendments, Variations, or Additions

The provisions of the Agreement and its annexes may be amended or supplemented by means of a written agreement signed by authorized representatives of the Signatory Parties. However, operational changes in Annex 1, other than changes in the project manager, the institution, and the overall schedule, can be made by agreement between the Center and the Recipient(s) upon approval by Partner requested in accordance with applicable clauses of Annex 1.

Article 13 - Annexes

The Annexes are an integral part of the Agreement. They are:
Annex 1 - Work Plan
Annex 2 - Financial Provisions
Annex 3 – Reports
Annex 4 – Intellectual Property

Article 14 - Entry into Force of the Agreement

The Agreement shall enter into force on the first of the month following the date this Agreement is signed by the last signature of Signatory Parties or the date Partner deposited its commitment in accordance with Article 3 6 to Center's account whichever is later, i e on `the Operative Commencement Date`

Prepared in Kyiv in the English and Ukrainian languages (Russian optional, if the project is located only in other CIS State). In the event of inconsistencies between the English and other texts, the English text shall take precedence

For the Center	For the Partner	For the Recipient(s)
		12.19.2011
Date of Signing (REQUIRED)	Date of Signing (REQUIRED)	Date of Signing (REQUIRED)
Andrew Hood Executive Director Science and Technology Center in Ukraine 7a Metalistiv Street, Kyiv 03057 Ukraine Tel/Fax +380(44) 490-7150/45	David Bull Coordinator Biosecurity Engagement Program U S Department of Health and Human Services /U.S. Centers for Disease Control and Prevention 1600 Clifton Rd. NE MS D-68 Atlanta 30333 United States of America Tel +1 404 6397356 Fax +1 404 6397490	Ekaterine Zangaladze Project manager Approved 12.11.2011 Nato Avaliani Director I. Sakvarelidze National Center for Disease Control and Public Health 9 Asatiani St, Tbilisi 0177, Georgia Tel +995 32 2311757 Fax +995 32 2311485

Annex I - Work Plan

1. Project Title P531
Comparison of different diagnostic methods for identification of active tuberculosis among HIV infected patients

2. Project management

2.1 Project Manager:

Name: Zangaladze Ekaterine David (PhD)
Title: Chief Researcher
Institution: L. Sakvarelidze National Center for Disease Control and Public Health
Phone: (+995.32) 2311406
Fax: (+995.32) 2311485
E-mail: molbio@ncdc.ge

2.2 Name of leading institution/address:

Name: L. Sakvarelidze National Center for Disease Control and Public Health
Address: 0177, 9, Asatiani St, Tbilisi, Georgia
Phone: (+995.32) 2311406
Fax: (+995.32) 2311485
E-mail: molbio@ncdc.ge

3. Introduction and Overview

What's the objective

The purpose of the proposed PDG project is to develop research idea and protocol for further full-scale proposal targeting the following scientific objectives:

To evaluate different Nucleic Acid Amplification Tests (NAAT) and Interferon Gamma Release Assay (IGRA) for diagnosis of active Tuberculosis (TB) among HIV infected patients

To compare *M. tuberculosis* drug resistance patterns among HIV infected and non-infected TB patients.

What's the problem

TB is a global public health problem. It represents one of the most prevalent communicable disease worldwide. In 1993, TB was declared as a global emergency by WHO. This declaration was due to the growing worldwide epidemic resulting from multiple factors, including the growing HIV/AIDS pandemic and the emergence of MDR and XDR TB. TB is one of the leading causes of infectious disease-related morbidity and mortality, especially for low and middle income countries, including Georgia. The TB epidemic is of particular concern among HIV infected individuals. HIV/TB co-infection significantly increases morbidity, mortality and health care costs. Tuberculosis is widespread in the former Soviet Union republics. After the collapse of Soviet Union, deterioration of socio-economic condition of population and public health service infrastructure, lack of TB diagnostic capacities contributed to the surge of cases.

In Georgia, the incidence of TB is high. Although Georgia is among low HIV prevalence countries, about 20% of newly diagnosed HIV patients are co-infected with active tuberculosis. The problem is aggravated by the fact that Georgia is one of the WHO high burden countries for highly drug resistant TB including multidrug (MDR)-TB and extensively drug resistant (XDR)-TB (7-10% prevalence of MDR TB and 1% XDR among MTB isolates). The importance of timely diagnosis of TB and identification of drug resistant strains of *M. tuberculosis* is extremely important among HIV infected patients.

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What are other people doing

Diagnostic methods for active tuberculosis:

For many decades the only methods for identification of active tuberculosis were acid fast (AFB) smear and mycobacterial cultures. AFB smear has limited sensitivity and specificity, especially among HIV positive and other immunocompromised individuals. Mycobacterial culture is sensitive method, but requires significant time up to 6-8 weeks. This results in significant number of cases with missed or delayed diagnosis, which significantly impairs treatment outcome. This is especially important among patients with drug resistant tuberculosis since early and effective treatment is critical for the optimal outcome and improved survival.

Several new nucleic acid amplification tests (NAAT) were introduced during the last decade to diagnose active TB. Among them the most widely used methods are the Xpert MTB/RIF (Cepheid) and GenoTypeMTBDR (Hain Lifescience).

The Xpert MTB/RIF is an automated diagnostic test that can identify Mycobacterium tuberculosis and resistance to rifampicin (RIF). In December 2010, WHO endorsed the automated NAAT for use in TB endemic countries and declared it as a major milestone for global TB diagnosis. The test was validated as an effective method for diagnosing TB, MDR-TB and TB/HIV co-infection.

GenoTypeMTBDR method is DNA STRIP technology for the simultaneous molecular genetic identification of the *M. tuberculosis* complex, its resistance to rifampicin by the detection of the most common mutations in the *rpoB* gene and its resistance to isoniazid by the detection of the most common mutations in the *katG* gene and *inhA* gene. The data on the performance of GenoTypeMTBDR test among HIV infected individuals is relatively limited.

Diagnostic metods for latent tuberculosis:

Tuberculin Skin Test (TST) was the only test available for diagnosis of latent TB for nearly a century. It has significant disadvantages, such as subjective interpretation of results and low sensitivity and specificity. Recently Interferon-gamma release assays (IGRA), tests for detection of LTBI measuring interferon-gamma (IFN-γ) release by T-cells, stimulated in vitro with specific mycobacterial antigens has been developed. There are two available IGRA tests: QuantiFERON-TB Gold In-Tube and enzyme-linked immunospot (ELISPOT) assay (T-SPOT.TB). The advantage of IGRA compared to TST is higher specificity, which helps in differentiating of TB exposure from exposure to BCG or non-TB mycobacteria. Besides, test adherence is higher as the return for reading test result is not needed and interpretation is standardized unlike in the case of TST, where reading of test results is subject to interpretation bias. Despite the advances in the field of TB diagnostics, there are relatively limited studies comparing the performance of different NAAT tests and their use among HIV positive individuals. The role of IGRA is not well evaluated for detection of active TB, especially for the population of HIV patients.

Drug resistant TB among HIV positive population

Drug resistant TB is extremely important public health problem in most regions of the world, including former Soviet Union Countries. Assessment of prevalence of drug resistant TB and its regional peculiarities is vitally important for evaluation of risk factors of MDR TB and planning prevention measures to control epidemics and administering evidence based adequate treatment regimens for TB patients.

Several studies have suggested that the presence of HIV infection may be associated with MDR-TB outbreaks as well as with the acquisition of resistance by the mycobacterial strain that originally infected the patient. At least 3 studies from Africa and 1 from the United States reported data indicating that HIV infection may be associated with anti-TB drug resistance. However other studies conducted over the past decade in Tanzania, Botswana, South Africa, Malawi, Mozambique, India, Vietnam, and Russia, as well as a multi-country study of determinants of drug-resistant TB, have not demonstrated an association between HIV infection and anti-TB drug resistance. The controversies of available data emphasize the importance and the need of additional studies in this field.

During recent years several studies had been conducted to evaluate the burden of drug resistant TB in Georgia:

- Clinical and Molecular Epidemiology of Drug-resistant Tuberculosis in the Republic of Georgia and the Caucasus, 2001-2004
- Development of Multiple Drug Resistant Tuberculosis (MDR TB) Surveillance and National TB Program (NTP) Evaluations, Republics of Armenia and Georgia 2004-2007.
- Risk factors for extensively drug resistant tuberculosis and evaluation of the GenoType MTBDRPlus assay for rifampin and isoniazid susceptibility rapid testing in country of Georgia, 2009-2011.

What are we going to do

Within the proposed PDG project we plan to collect background information for the development of large-scale research proposal on the evaluation of different NAATs and Interferon Gamma Release Assay (IGRA) for diagnosis of active TB among HIV infected patients and estimation and comparison of *M tuberculosis* drug resistance patterns among HIV infected and non-infected TB patients.
To achieve the main goal of current project – development of future research proposal - three work-groups will be created - epidemiology, bacteriology and molecular biology teams. Research groups will collect and process international and regional scientific information related to the project objectives through medical literature search, obtain statistics regarding prevalence and incidence data on HIV and TB in the country and conducting small scale research for providing preliminary data to identify the research activities.
Development of future full-scale proposal will be implemented in close cooperation with US collaborator Dr. Henry Blumberg (Emory University, Atlanta, Georgia, USA). NCDC and Emory University have more then 10 – year history of collaboration. Several projects funded by DHHS/BTEP and CRDF were carried out during this period. This collaboration has been productive; it has been resulted in scientific presentations and publications. Georgian research team will travel twice to the Emory University to consult with the collaborator and to work with him on overall design of future research proposal. Dr. Blumberg will invite and lead the team of US experts for the conceptualization and development of future research proposal. Besides, during the activities of current project Dr. Blumberg will provide technical expertise via e-mail and telephone conference calls.

What's new

Data on the performance of NAAT and IGRA methods among HIV infected patients are limited and their use is not validated. Drug resistance patterns in this group of the population are not well studied. Only few studies are conducted in former Soviet Union Countries. Accordingly, new studies will generate valuable information in this field.

Who we are

L. Sakvarelidze National Center for Disease Control and Public Health (NCDC) is a primary public health center in Georgia responsible for public health surveillance and response of communicable and non communicable diseases. The main activities of the Center includes: surveillance and control of infectious and non infectious diseases, coordination of the immunization program; development of didactic and regulatory documents on surveillance, control and prevention of diseases; collection and exchange of information inside and outside of the country.

NCDC has extensive experience at National and International levels in the following areas of communicable diseases:

- Deseases caused by Especially Dangerous Pathogens: Plague, anthrax, tularemia, brucellosis, botulism.
- Viral hemorrhagic fevers: hanta virus, Crimean Congo virus.
- Influenza virus: H5N1, pandemic H1N1
- Vector borne diseases: Leishmania, rickettsia, malaria, leptospirosis

- Tuberculosis:
- Polio
- Enteric pathogens
- Nosocomial pathogens

NCDC is responsible for administration of state programs in HIV and Tuberculosis surveillance.

NCDC in collaboration with Defense Threat Reduction Agency of Department of defense of US has developed a public health laboratory network throughout the Georgia. Tuberculosis state laboratory network was recently integrated into NCDC laboratory network and since October 2011 NCDC together with reference laboratory of National Center for Tuberculosis and Lung diseases (NCTLD) is responsible for providing different TB diagnostic tests for health care facilities throughout the Georgia (smear, culture, PCR, DST and etc).

NCDC possesses the most comprehensive bacterial culture collection in Georgia, with some isolates more than 25 years old. At this point 180 drug resistant TB isolates are kept at NCDCPH.

NCDC has close collaboration with WHO, CDC, FIC NIH, DTRA, US Army Medical Research and Materiel Command (MRMC), The United States Army Medical Research Institute for infectious diseases (USAMRIID), Walter Reed Army Institute of Research (WRAIR), European Union 7th Framework Programme, Civilian Research and Development Foundation (CRDF), Biotechnology Engagement Program/International Science and Technology Center (BTEP/ISTC). MEDES - Institute for Space Medicine and Physiology, Global Alliance for Vaccines and Immunization (GAVI), USAID, UNICEF, Global Fund to Fight AIDS, Tuberculosis and Malaria, London School of Hygiene &Tropical Medicine etc.

In collaboration with Emory University, NCDC has recently completed a study: "Risk factors for extensively drug resistant tuberculosis and evaluation of the GenoType MTBDRPlus assay for rifampin and isoniazid susceptibility rapid testing in country of Georgia". The study was funded by CRDF and the goal of this study was to determine the prevalence and risk factors for XDR-TB in Georgia, examine the molecular epidemiology of MDR-TB and XDR-TB, evaluate accuracy of commercially available Molecular Genetic Assay Genotype MTBDRplus (HAIN Lifescience) in detecting MTBC and its resistance to rifampin and isoniazid in comparison to conventional methods, assess the outcomes of treatment and risk factors for relapse and poor outcomes among patients enrolled in the population based Drug Resistance Survey (DRS).

Zangaladze Ekaterine, MD.,Ph.D., Chief Researcher, Laboratory Department. Education and Qualification: 1980 – M.D., Tbilisi State Medical University; 1990 – Ph.D., Tbilisi State Medical University; 1981.1983 - Postgraduate Education, Ivanovsky Institute of Virology, Russian Academy of Sciences; 1984,1986 - Institute of Poliomyelitis and Viral Encephalitides of Russian AMS; Emory University, Atlanta, Georgia, USA – 2002,2005; CDC, Atlanta, Georgia, USA -2006; National Jewish Medical and Research Center, Denver, USA – 2007; CDC, Atlanta, Georgia, USA-2009.
Dr. Zangaladze has been working for NCDC since 1980. Dr. Zangaladze has extensive experience in working with infectious diseases causing microorganisms, with particular expertise in molecular epidemiology. She has 10 scientific publications. Dr. Zangaladze served as a PI and manager on collaborative studies funded by BTEP/ISTC and CRDF: "Clinical and Molecular Epidemiology of Drug-resistant Tuberculosis in the Republic of Georgia and the Caucasus,2001-2004"; : "Development of Multiple Drug Resistant Tuberculosis (MDR TB) Surveillance and National TB Program (NTP) Evaluations, Republics of Armenia and Georgia" 2004-2007. "Risk factors for extensively drug resistant tuberculosis and evaluation of the GenoType MTBDRPlus assay for rifampin and isoniazid susceptibility rapid testing in country of Georgia", 2009-2011.
Dr. Zangaladze, Project Manager and PI of this application, will be responsible for overall development/administration of the project, establishing close collaborative ties between NCDC and foreign collaborators, coordinating studies, etc.

Butsashvili Maia – Deputy Director of National Center for Disease Control and Public Health (NCDC). In 2010 graduated School of Public Health, State University of New York and received PhD degree in epidemiology. In 2000 she received her master's degree in epidemiology of infectious diseases at State University of New York. In 1993 Dr. Butsashvili graduated Tbilisi State Medical Institute, department of pediatrics. She has extensive experience in leading different public health projects. She was director of the following projects (among others): Prevention of mother to child HIV transmission in Georgia (Glaser foundation program); Prevalence and awareness of blood borne infections among health care workers in Georgia (CRDF project); Viral and bacterial infections among newborns at intensive care units in Georgia (Fogarty International Center, NIH); Prevalence and awareness of human papillomavirus infection among reproductive aged women in Georgia (GNSF); Health care associated infections in obstetrics and gynecology settings in Georgia (NATO, JSI). Dr. Butsashvili was Co-PI on multiple projects. Up to date she is also practicing physician in infectious.
She will be responsible for theoretical and epidemiological investigations.
Kandelaki George, MD - Deputy Director of National Center for Disease Control and Public Health (NCDC
Education:_2004-2006 - Infectious Diseases Fellowship, University of Medicine and Dentistry of New Jersey Newark, NJ, USA; 2001-2004 - Internal Medicine Residency, St. John's Episcopal Hospital - State University of New York Health Science Center at Brooklyn, Queens, NY, USA; 1995-1996 - Internal Medicine Residency, Tbilisi, Georgia; 1989 – 1995MD, Tbilisi State Medical University, Tbilisi, Georgia
Board Certifications:2004 - Board certified in Internal Medicine (USA); 2006 - Board certified in Infectious Diseases (USA)
Licensure: 2006 - Arizona Medical Board License to practice Medicine; 2008 - Licence to practice Internal Medicine and Infectious Diseases in Georgia.
Dr. Kandelaki has 7 scientific publications in international medical journals over the fast five years.
He will be responsible for theoretical and epidemiological investigations.

Avaliani Nato, MD,PhD –Dr. Avaliani is a healthcare expert with over 12 years of extensive experience in the areas of public health, healthcare policy, and health care management. Since 2010 Dr. Avaliani is a General Director of the National Center for Disease Control and Public Health. From 2002 to 2009 Dr. Avaliani served as a Regional Director and provided overall management of the American International Health Alliance's (AIHA) healthcare partnership program in Armenia, Azerbaijan, and Georgia. She also served as a technical expert and advisor for AIHA in the areas of public health, blood safety and infection control, non-communicable disease control, health professions education and other areas.

Before joining AIHA in 1999, Dr. Avaliani held a dual position as Deputy Director of the Department of Public Health and Health Promotion Component Coordinator for the WB Georgia project. In this capacity Dr. Avaliani led efforts to develop national public health policy and strategies in health promotion, epidemiology, and disease prevention, as well as to develop training programs in the field. She has actively participated in the restructuring and formation of the new public health system in Georgia in 1998-1999. Her clinical experience includes clinical practice in Cardiology and Intensive Care at the Department of Myocardial Infarction and Cardiology at City Hospital No.1 from 1994-1996.

As a public health expert Dr. Avaliani served as an advisor and a member of advisory committees and working groups on healthcare issues in Georgia and Azerbaijan, and served as a member of Country Coordination Mechanisms on HIV/AIDS, TB and Malaria projects. Dr. Avaliani also serves as a health expert at the Council of Europe in Strasbourg, France and in this capacity participated in the expert committees on various health policy topics. Since 2008 she is involved in academic education leading courses in public health policy, health systems and healthcare administration in Master of Public health and Master of Health Administration programs.

Dr. Avaliani earned her MPH from the Netherlands School of Public Health in Utrecht, Netherlands and her MD, with a specialty in internal medicine, from Tbilisi State Medical University. Dr. Avaliani's research interests include disease surveillance and control interventions, effectiveness of public health programs.

Tsereteli David – Chief Researcher, Division of Outbreak and Bioterrorism Response, NCDC. Education and Qualification: 1989 – M.D., Tbilisi State Medical University; 1994 – Ph.D., Tbilisi State Medical University; 1990 - Postgraduate Education, Moscow Medical Academy; June, 2005 – Caroline University, Stockholm, Sweden.Dr. David Tsereteli has been working for NCDC since 1989, he studies epidemiology of communicable and non-communicable diseases. Dr. Tsereteli has 21 Conference Papers & Presentations, 56 Scientific Publications and 3 textbooks.
He participated in many scientific projects (ISTC/BTEP G-596 "Molecular Epidemiology and Antibiotic Resistance of Bacterial Infections in Georgia" /2002-2005/. ISTC/BTEP G-1059 "Improvement of Hospital Infection Control Practice in Georgia through Fundamental Change in the Medical Role and Economic Structure of Microbiology" /2005-2008/, and etc.).He will be responsible for epidemiological data collection and analysis

Tsanava Shota – MD., PhD. Chief Researcher, Head, Department. of Head of Biosafety/Biosecurity, Repository of Bacteriae and Viruses. Education and Qualification: 1982 – M.D., Tbilisi State Medical University; 1990 – Ph.D., Institute of Poliomyelitis and Viral Encephalitides of Russian AMS; 1991 - Postgraduate Education, Institute of Improvement of Medical Qualification – Infectious Diseases; CDC Course in Applied Epidemiology, Biostatistics and Scientific Communications, Yerevan, Armenia - 1995; CDC Education Program for Laboratory Quality Management System, Tbilisi, Georgia-2009
He participated in different projects carried out at NCDC: BTEP/ ISTC " Establishment of national sentinel-site, laboratory-based Salmonella surveillance system and outbreak response capacity for enhanced control of food-borne disease in the republic of Georgia" .2007-2010;CBR "Clinical, Epidemiologic and Laboratory based assessment of Brucellosis in Georgia".2008-2010. CBR "Ecology, Genetic Clustering and Virulence of major bacterial and viral pathogens in Georgia" 2009-2011 BTEP/ ISTC" Epidemiology, Molecular Characteristics and Clinical Course of HCV Infection in Georgia". 2001-2005 . BTEP/ ISTC "Prevention of Amebiasis in the Republic of Georgia." 2001-2005. Dr. Tsanava has 84 scientific publications, he will be responsible for epidemiological portion of the project.

Grdzelidze Marine – Senior Researcher, Department of biosafety, pathogen repository, vivarium and zooentomology, NCDC.
Education: – M.D., Tbilisi State Medical University.
During the period of the former USSR Dr. Grdzelidze worked in Georgian Anti-plaque Station. She took part in many scientific projects (Project G-1081, DHHS BTEP / ISTC, "Development of Surveillance System and Control Strategy for Leishmaniasis in Georgia by Means of Epidemiological Investigation and Strengthening of Laboratory Capacities" /2005-2008/; P-142a, STCU, "Application of Molecular Fingerprinting to Geographical Characterization and Epidemiological Surveillance of Natural foci of *Yersinia pestis* and *Francisella tularensis* in the Republic of Georgia"/2006-2007; Clinical, Epidemiologic and Laboratory based assessment of Brucellosis in Georgia. USAMRIID, Walter Reed Army Institute of Research (WRAIR), Louisiana State University, Department of Veterinary Science, USA /2008-2010/ and etc.).She will be responsible for laboratory investigations for this project.

Berishvili Zaza – MD, PhD; Head, Laboratory Department of NCDC. Education and Qualification: 1983 – M.D., Tbilisi State Medical University; 1989 – PhD, Kiev State Medical Institute; He served as Senior Scientist at Tbilisi AIDS and Clinical Immunology Center during 1985-1988 , -as visiting scientist at Reproductive Laboratories , Fertility and Reproductive Health Institute of Northern California – 2005; he published 4 scientific papers since 2005. Dr. Berishvili will be responsible for theoretical and laboratory issues of the current project.

Gvetadze Konstantine– MD. Head of public health laboratory network; Education and Qualification:1983 - M.D., Tbilisi State Medical University. Postgraduate Education / trainings; – Healthcare management – AIHA 1996; Quality Control in Healthcare systems – AIHA,1997; Management of diseases caused by deficiency of microelements – 1998,PAMM, USA. Diagnosis and management of blood born pathogens - 2005, Romania. Diagnosis and management of EDP –

2005,BTRP/ USAMS/ AFRIMS, Bangkok, Thailand. Surveilance and laboratory diagnosis of EDP – 2007, BTRP /TADR, Oslo, Norway. Managment of Quality Control for laboratories – 2009, CDEC, Atlanta, USA.In frame of given project Dr. Gvetadze will be responsible for epidemiological data collection.

Merabishvili Tsira – Chief specialist, Department of HIV/AIDS, Hepatitis, STDs and TB, NCDC. Coordinator of State Program: "Early detection and screening of Tuberculosis".
Education and Qualification: 1988 - M.D., Tbilisi State Medical University.1995 - State Medical Academy, course of Bacteriology and Epidemiology. Dr. Merabishvili has been workung for NCDC since 2007.
Professional Trainings: Epidemiology and Surveillence of Especially Dangerous Infections, NCDC, 2008; Establishment of evidence-base for national HIV/AIDS program by strengthening the HIV/AIDS surveillance system in the country, NCDC, 2008; Workshop „Control of HIV/AIDS and Hepatitis". National School of Public Health. Athens, Greece, October, 2009; Workshop in Advanced HIV Survellance, Dubrovnik, Croatia, July 2010; Sampling & Study Protocols in Quantitative Behavioral Surveillance Surveys (BSS), November 2010; In current project she will be responsible for epidemiological data collection and analysis.

Burdjanadze Irma – Chief specialist, Department of HIV/AIDS, Hepatitis, STDs and TB, NCDC. Coordinator of National HIV/AIDS Program;
Education and Qualification: 1999-Preventive Medical Doctor of General Practice, Faculty of Preventive Medicine, Tbilisi State Medical University; 2006 –Physician Epidemiologist M. D., State License in Epidemiology, Medical Academy, Tbilisi, Georgia; 2005-Pinciples of Infection Control and Hygiene in Health Care Settings, Caroline University, Stockholm, Sweden.
Dr. Burdjanadze has been working for NCDC since 2001, she has 4 publications and conference papers.Dr. Burdjanadze participated in scientific projects and programs carried out at NCDC: 2007- Chief Specialist of State Program "Infection Control"; 2005-2007 Researcher of BTEP/ISTC Project # G-1059 – "Improvement of Hospital Infection Control Practice in Georgia through Fundamental Change in the Medical Role and Economic Structure of Microbiology" /2005-2008/- Collaborators: University of Minnesota, USA; Researcher of ISTC/BTEP G-596 "Molecular Epidemiology and Antibiotic Resistance of Bacterial Infections in Georgia" /2002-2005/;

Kutateladze Tamar - MD., Ph.D., Chief Researcher, Laboratory Department of NCDC. Education and Qualification:1979 – M.D., Tbilisi State Medical University; 1991 – Ph.D., Tbilisi State Medical University; 1983 - Postgraduate Education, Ivanovsky Institute of Virology, Russian Academy of Sciences; 1984 - Institute of Poliomyelitis and Viral Encephalitides, Russian AMS; 1985 - Belozersky Institute of Physical-Chemical Biology, Moscow state University. 2006-CDC, Atlanta, Georgia, USA; 2009 - CDC, Atlanta, Georgia, USA;
Dr Kutateladze has been working for NCDC since 1979. Dr Kutateladze is a coordinator of WHO program "Poliovirus eradication in Europe". She has 11 scientific publications. She served as Project Manager and PI on BTEP/ISTC funded project "Clinical and Molecular Epidemiology of Meningitis Caused by Enteroviruses in the Republic of Georgia».Dr Kutateladze participated in scientific projects carried out at NCDC BTEP/ISTC and CRDF: "Clinical and Molecular Epidemiology of Drug-resistant Tuberculosis in the Republic of Georgia and the Caucasus,2001-2004"; : "Development of Multiple Drug Resistant Tuberculosis (MDR TB) Surveillance and National TB Program (NTP) Evaluations, Republics of Armenia and Georgia" 2004-2007. "Risk factors for extensively drug resistant tuberculosis and evaluation of the GenoType MTBDRPlus assay for rifampin and isoniazid susceptibility rapid testing in country of Georgia", 2009-2011. Dr. Kutateladze will be responsible for epidemiological and laboratory issues of the project.

4. Expected Results

- Results of this PDG project will be used for developing research idea and protocol for further advanced in-depth research proposal.

- The prevalence of HIV infection among newly diagnosed TB patients will be evaluated
- The prevalence and the role of TB infection in the morbidity of HIV infected patients will be evaluated
- The burden of MDR TB among HIV infected patients will be estimated
- *M. tuberculosis* drug resistance patterns among HIV infected and non-infected TB patients will be compared.
- The comprehensive report on regarding TB/HIV co-infection in the country will be prepared:

Deliverables	Due date (by the end of Month # __)	Point (address) of delivery
Presentation of preliminary data of the project	by the end of months # 6	STCU, BTEP
Development of future research proposal	by the end of months # 12	STCU, BTEP

5. Scope of Activities

The project will be conducted by L. Sakvarelidze National Center for Disease Control and Public Health (NCDC) of Georgia in collaboration with Emory University School of Medicine having long-term collaboration with Georgian institutions in TB/HIV areas. The local collaborating institutions will be National Center for Tuberculosis and Lung Diseases (NCTLD) and Infectious Diseases, AIDS and Clinical Immunology Research Center (IDACIR). The Project Development Grant (PDG) resources will be used to fulfill activities appointed by the following tasks:

Task 1 Collect relevant scientific background information related to the project goals through medical literature search and review of ongoing research projects for preliminary regional and international data;

Task 2 Collect baseline statistics regarding TB/HIV co-infection in the country;

Task 3 Organize the workshop for all institutions and scientists potentially involved in the development of the proposal;

Task 4 Screening of HIV infection among 500 consecutive newly diagnosed TB patients;

Task 5 Medical chart review among HIV patients diagnosed during the last three years to study the prevalence of active tuberculosis during first three months of HIV diagnosis;

Task 6 Study of the prevalence of MDR/XDR TB among TB/HIV co-infected TB culture positive patients;

6. Technical Approach and Methodology

At the beginning of the project collection of relevant scientific background information related to the project goals through medical literature search and review of ongoing research projects for preliminary regional and international data will be conducted. For this purpose we will search Medline using PubMed service of the US National Library of Medicine for published reports evaluating the association TB and HIV infection internationally and Medical Library of Georgia for regional reports regarding TB/HIV infection. Besides, Georgian scientists working in relevant fields will be contacted to access unpublished data.

Collection of baseline statistics regarding TB/HIV co-infection in the country will be conducted in collaboration to NCTBLD and IDACIR. Workshop will be organized by NCDC with participation of NCTBLD, IDACIR, Georgian Ministry of Health Labor and Social Affairs and NGOs working in this area.

500 consecutive newly diagnosed TB patients will be recruited and HIV testing will be performed using ELISA method. ELISA positives will be confirmed by western blot analysis within HIV State Program activities. Medical chart review among HIV patients diagnosed during the last three years will be performed to study the prevalence of active tuberculosis during first three months of HIV diagnosis. The checklist for chart review will be created. Existing data regarding the prevalence of MDR/XDR TB among TB/HIV co-infected TB culture positive patients will be collected.

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7. Project Location and Facilities

The project will be carried out at the National Center for Diseases Control and Public Health (NCDC), Tbilisi, Georgia – 7 floors building, Training Center, Offices for epidemiologists, Bacteriological, Virological, Cell Culture, Mol. Epidemiological Laboratories. NCDC possesses all necessary equipment for research.

8. Financial Information

Table 1 presents Work schedule specified for each participating institution as identified by I-Code.
Table 2 presents Work schedule chart.

Budget categories (allowable direct cost) are specified in the following tables:
Grant payments: Table 3
Equipment: Table 4
Materials: Table 5
ODC: Table 6
Travel: Table 7

Tables 8 and 9 present financial summary including overhead for participation institutions.
Tables S8 and S8 present financial summary for each participating institution separately.

Table 1. Work Schedule / Таблиця 1. Розклад робіт

Stages / Substages*			Institution short name	Estimate Work Days													Milestones	
# Stages	#.# Stages	Name		Qtr1	Qtr2	Qtr3	Qtr4	Qtr5	Qtr6	Qtr7	Qtr8	Qtr9	Qtr10	Qtr11	Qtr12	Total by stage	Name	months
1		Collect relevant scientific background information related to the project goals through medical literature search and review of ongoing research projects for preliminary regional and international data														107	-Search Medline using PubMed service of the US National Library of Medicine for published reports evaluating the association TB and HIV infection - Search Medical Library of Georgia for regional reports - receive unpublished data from Georgian scientists	12
	1.1	Collect relevant scientific background information related to the project goals through medical literature search and review of ongoing research projects for preliminary regional and international data	NCDC	25	23	23	36	0	0	0	0	0	0	0	0		-Search Medline using PubMed service of the US National Library of Medicine for published reports evaluating the association TB and HIV infection - Search Medical Library of Georgia for regional reports - receive unpublished data from Georgian scientists	
2		Collect baseline statistics regarding TB/HIV co-infection in the country														83	- Design the study , write the protocol - Collect statistics regarding TB/HIV coinfection in the country - Data analysis	12
	2.1	Collect baseline statistics regarding TB/HIV co-infection in the country	NCDC	19	19	19	26	0	0	0	0	0	0	0	0		- Design the study , write the protocol - Collect statistics regarding TB/HIV coinfection in the country - Data analysis	
3		Organize the workshop for all institutions and scientists potentially involved in the development of the proposal														27	- Develop schedule for workshop - Held the workshop	9
	3.1	Organize the workshop for all institutions and scientists potentially involved in the development of the proposal	NCDC	0	0	27	0	0	0	0	0	0	0	0	0		- Develop schedule for workshop - Held the workshop	
4		Screening of HIV infection among 500 consecutive newly diagnosed TB patients														64	- Develop research design - Develop patients inclusion / exclusion criteria - Perform laboratory investigations - Analysis of results	12
	4.1	Screening of HIV infection among 500 consecutive newly diagnosed TB patients	NCDC	16	16	16	16	0	0	0	0	0	0	0	0		- Develop research design - Develop patients inclusion / exclusion criteria - Perform laboratory investigations - Analysis of results	
5		Medical chart review among HIV patients diagnosed during the last three years to study the prevalence of active tuberculosis during first three months of HIV diagnosis														160	- Design the study and study protocol - Develop checklist for patients chart review - Perform study / Collect relevant data from medical charts of HIV patients - Data analysis	12
	5.1	Medical chart review among HIV patients diagnosed during the last three years to study the prevalence of active tuberculosis during first three months of HIV diagnosis	NCDC	38	38	38	46	0	0	0	0	0	0	0	0		- Design the study and study protocol - Develop checklist for patients chart review - Perform study / Collect relevant data from medical charts of HIV patients - Data analysis	
6		Study of the prevalence of MDR/XDR TB among TB/HIV co-infected TB culture positive patients														124	- Data collection, data regarding the resistance patterns of TB/HIV co-infected TB culture positive patients will be collected countrywide - Data analysis	12

	6,1	Study of the prevalence of MDR/XDR TB among TB/HIV co-infected TB culture positive patients	NCDC	31	31	31	31	0	0	0	0	0	0	0	0		- Data collection; data regarding the resistance patterns of TB/HIV co-infected TB culture positive patients will be collected countrywide - Data analysis	
		Total Work Days:		129	127	154	155	0	0	0	0	0	0	0	0	565		

129	127	154	155	0	0	0	0	0	0	0	0	565

Table 2. Work Schedule Chart / Таблиця 2. Діаграма стадій проекту

Stage number	Beginning date	Duration, months	Q1			Q2			Q3			Q4			Q5			Q6			Q7			Q8			Q9			Q10			Q11			Q12		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1 Stage	1	12																																				
2 Stage	1	12	Collect relevant scientific background information related to the project goals through medical literature search and review of ongoing research projects for preliminary national and international data																																			
3 Stage	7	3	Collect baseline statistics regarding TB/HIV co-infection in the country																																			
4 Stage	1	12	Organize the workshop for all institutions and scientists potentially involved in the development of the proposal																																			
5 Stage	1	12	Screening of HIV infection among 500 consecutive newly diagnosed TB patients																																			
6 Stage	1	12	Medical chart review among HIV patients diagnosed during the last three years to study the prevalence of active tuberculosis during first three months of HIV diagnosis																																			
7 Stage			Study of the prevalence of MDR/XDR TB among TB/HIV co-infected TB culture positive patients																																			
8 Stage			#N/A																																			
9 Stage			#N/A																																			
10 Stage			#N/A																																			
11 Stage			#N/A																																			
12 Stage			#N/A																																			
13 Stage			#N/A																																			
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21 Stage			#N/A																																			
22 Stage			#N/A																																			
23 Stage			#N/A																																			
24 Stage			#N/A																																			

Table 3. Personal Commitment / Таблица 3. Участь персоналу

#	Surname (in English)	First Name	Codes I-Code	Date of Birth	W.Code	Place in Project	Acad. Rank	V-Code	Daily Rate	Days Qtr1	Qtr2	Qtr3	Qtr4	Qtr5	Qtr6	Qtr7	Qtr8	Qtr9	Qtr10	Qtr11	Qtr12	Total days	% of Time	Cost Qtr1	Qtr2	Qtr3	Qtr4	Qtr5	Qtr6	Qtr7	Qtr8	Qtr9	Qtr10	Qtr11	Qtr12	Total Cost
1	Zangaladze	Ekaterine	1	01.01.1956	1.3	PM	PhD	P	40	25	25	44	44	0	0	0	0	0	0	0	0	138	63	1000	1000	1760	1760	0	0	0	0	0	0	0	0	5,520
2	Butsashvili	Maia	1	07.03.1970	0	GL, TI	PhD	C	40	5	6	6	5	0	0	0	0	0	0	0	0	22	10	200	240	240	200	0	0	0	0	0	0	0	0	880
3	Kandelaki	George	1	15.03.1972	0	TI	Doctor	C	40	5	6	6	6	0	0	0	0	0	0	0	0	22	10	200	240	240	200	0	0	0	0	0	0	0	0	880
4	Tsereteli	David	1	29.10.1964	1.3	TI	PhD	C	40	5	4	10	10	0	0	0	0	0	0	0	0	29	13	200	160	400	400	0	0	0	0	0	0	0	0	1,160
5	Avaliani	Nato	1	10.04.1971	0	CT	PhD	C	40	5	5	5	5	0	0	0	0	0	0	0	0	20	9	200	200	200	200	0	0	0	0	0	0	0	0	800
6	Tsanava	Shota	1	08.01.1957	1.3	EI, TI	PhD	C	35	13	12	12	13	0	0	0	0	0	0	0	0	50	23	455	420	420	455	0	0	0	0	0	0	0	0	1,750
7	Gvijandze	Marine	1	27.01.1950	1.3	EI, TI	Specialist	C	30	9	9	9	9	0	0	0	0	0	0	0	0	36	16	270	270	270	270	0	0	0	0	0	0	0	0	1,080
8	Berishvili	Zaza	1	26.01.1969	0	EI, TI	PhD	C	35	13	12	12	13	0	0	0	0	0	0	0	0	50	23	455	420	420	455	0	0	0	0	0	0	0	0	1,750
9	Gvetadze	Konstantine	1	18.02.1960	0	TI	Specialist	C	30	12	12	12	12	0	0	0	0	0	0	0	0	48	22	360	360	360	360	0	0	0	0	0	0	0	0	1,440
10	Meraabishvili	Teka	1	29.03.1963	0	TI	Specialist	C	30	12	12	13	13	0	0	0	0	0	0	0	0	50	23	360	360	390	390	0	0	0	0	0	0	0	0	1,500
11	Burdjanadze	Irma	1	08.02.1972	0	TI	Specialist	C	30	12	12	13	13	0	0	0	0	0	0	0	0	50	23	360	360	390	390	0	0	0	0	0	0	0	0	1,500
12	Kiladzeladze	Tamar	1	17.09.1956	1.3	EI, TI	PhD	C	35	13	12	12	13	0	0	0	0	0	0	0	0	50	23	455	420	420	455	0	0	0	0	0	0	0	0	1,750
																						0	0	0	0	0	0	0	0	0	0	0	0	0
																						0	0	0	0	0	0	0	0	0	0	0	0	0
																						0	0	0	0	0	0	0	0	0	0	0	0	0
																						565		4515	4450	5510	5535	0	0	0	0	0	0	0	0	20,010

Short Institution Name	I-Code	Total People		Qtr1	Qtr2	Qtr3	Qtr4	Qtr5	Qtr6	Qtr7	Qtr8	Qtr9	Qtr10	Qtr11	Qtr12			Qtr1	Qtr2	Qtr3	Qtr4	Qtr5	Qtr6	Qtr7	Qtr8	Qtr9	Qtr10	Qtr11	Qtr12	
NCDC	1	12	Total:	129	127	154	155	0	0	0	0	0	0	0	0	565		4515	4450	5510	5535	0	0	0	0	0	0	0	0	20010
	2	0	Total:	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0
	3	0	Total:	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0
	4	0	Total:	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0
	5	0	Total:	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0

FWS:	Total	5	Sub-total(FWS:)	85	82	87	89	0	0	0	0	0	0	0	0	303		2380	2270	3270	3340	0	0	0	0	0	0	0	0	11290
NFWS:	Total	7	Sub-total(NFWS:)	84	85	67	66	0	0	0	0	0	0	0	0	202		2135	2180	2240	2195	0	0	0	0	0	0	0	0	8760
Total:	Total	12	Grand Total:	129	127	154	155	0	0	0	0	0	0	0	0	565		4515	4450	5510	5535	0	0	0	0	0	0	0	0	20010

Project Codes PM - Project Manager, PIM - Participating Institution manager, GL - Group leader EI - Experimental Investigation, TI - Theoretical Investigation, TD - Technology development, DN - Designing, SL - Simulation, CT - Consultation, TL - Translator LA - Laboratory assistant, SP - Support person

Table 4. Equipment / Таблиця 4. Обладнання

#	Description	Inst.	Anticipated Use	V-Code	P-Code	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
Capital (Cost per item >= $2500)																		
																		0
																		0
Non_Capital (Cost per item < $2500)																		
																		0
																		0
Leased Equipment																		
																		0
																		0
					Total Costs:	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 5. Materials / Таблица 5. Материали

#	#	Description	Inst.	Anticipated Use	V-Code	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
1		Raw materials (metals, gases, oils etc)																0
																		0
																		0
2		Chemicals (reagents, solvents, salts, acids etc);																0
	2.1	Reagents	1	Reagents	C	5700	0	0	0	0	0	0	0	0	0	0	0	5700
																		0
																		0
3		Laboratory supplies (electronic components, glassware, laboratory tools, photo materials etc);																0
	3.1	Laboratory supplies	1	Supplies	C	1350	1350	0	0	0	0	0	0	0	0	0	0	2700
																		0
																		0
4		Office supplies (stationery and other expendable materials:cartridges, toner, cleaning household goods etc)																0
	4.1	Office supplies	1	Supplies for office	C	400	300	300	300	0	0	0	0	0	0	0	0	1300
																		0
																		0
5		Other																0
																		0
																		0
					Total Costs:	7450	1650	300	300	0	0	0	0	0	0	0	0	9700

Table 6. Other Direct Costs / Таблиця 6. Інші прямі витрати

#	#	Description	Inst.	Anticipated Use	%Code	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
1		Computer software																0
																		0
																		0
2		Communication (Internet, phone, e-mail...)																0
	2.1	Mail	1	Communication	C	30	30	30	30	0	0	0	0	0	0	0	0	120
	2.2	Telephone	1	Communication	C	45	45	40	40	0	0	0	0	0	0	0	0	170
																		0
																		0
3		Security																0
																		0
																		0
4		Repairing/maintenance of equipment																0
																		0
																		0
5		Laboratory tests outside																0
																		0
																		0
6		Publications/translation																0
																		0
																		0
7		Transportation																0
																		0
																		0
8		Patenting																0
																		0
																		0
9		Other																0
																		0
																		0
				Total Costs:		75	75	70	70	0	0	0	0	0	0	0	0	290

Table 7. Travel / Таблиця 7. Відрядження

#	Country of Destination	City	Inst.	People	Institute of Destination	Purpose of Travel	T-Code	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
International																				
1	USA	Atlanta	1	5	Emory University	Development of full-scale project proposal	C	0	13400	0	0	0	0	0	0	0	0	0	0	13400
2	USA	Atlanta	1	3	Emory University	Development of full-scale project proposal	C	0	0	0	6600	0	0	0	0	0	0	0	0	6600
																				0
																				0
																				0
Total International Costs:								0	13400	0	6600	0	0	0	0	0	0	0	0	20000
Domestic																				
																				0
																				0
																				0
Total Domestic Costs:								0	0	0	0	0	0	0	0	0	0	0	0	0

Summary	
International:	20000
Domestic:	0
Total:	20000

Table 8. Financial Summary / Таблиця 8. Зведена фінансова інформація

#	Item	Qtr1	Qtr2	Qtr3	Qtr4	Qtr5	Qtr6	Qtr7	Qtr8	Qtr9	Qtr10	Qtr11	Qtr12	Total
1	Days - FWS	65	62	87	89	0	0	0	0	0	0	0	0	303
2	Days - NFWS	64	65	67	66	0	0	0	0	0	0	0	0	262
	Total Days:	129	127	154	155	0	0	0	0	0	0	0	0	565
1	Grants - FWS	2380	2270	3270	3340	0	0	0	0	0	0	0	0	11,260
2	Grants - NFWS	2135	2180	2240	2195	0	0	0	0	0	0	0	0	8,750
3	Grants total:	4515	4450	5510	5535	0	0	0	0	0	0	0	0	20,010
4	Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Materials	7450	1650	300	300	0	0	0	0	0	0	0	0	9,700
6	Other Direct Costs	75	75	70	70	0	0	0	0	0	0	0	0	290
7	Travel International	0	13400	0	6600	0	0	0	0	0	0	0	0	20,000
8	Travel Domestic	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Travel Total:	0	13400	0	6600	0	0	0	0	0	0	0	0	20,000
10	Non-Labor Expenses:	7525	15125	370	6970	0	0	0	0	0	0	0	0	29,990
11	Total Expenses:	12040	19575	5880	12505	0	0	0	0	0	0	0	0	50000
12	Overhead for the Institution	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Total Project Cost:	12,040	19,575	5,880	12,505	0	0	0	0	0	0	0	0	50,000

Overhead for the Institution(s):	0
Project duration (quarters):	4

STCU fee - 5%		0
STCU fee -0% - *for this case delete 5 in a cell above*		
Total Project Cost		50,000

Table 9. Financial Summary (Cumulative)

#	Item	Qtr1	Qtr2	Qtr3	Qtr4	Qtr5	Qtr6	Qtr7	Qtr8	Qtr9	Qtr10	Qtr11	Qtr12
1	Days - FWS	65	127	214	303	303	303	303	303	303	303	303	303
2	Days - NFWS	64	129	196	262	262	262	262	262	262	262	262	262
	Total Days:	129	256	410	565	565	565	565	565	565	565	565	565
1	Grants - FWS	2380	4650	7920	11260	11260	11260	11260	11260	11260	11260	11260	11260
2	Grants - NFWS	2135	4315	6555	8750	8750	8750	8750	8750	8750	8750	8750	8750
3	Grants total:	4515	8965	14475	20010	20010	20010	20010	20010	20010	20010	20010	20010
4	Equipment	0	0	0	0	0	0	0	0	0	0	0	0
5	Materials	7450	9100	9400	9700	9700	9700	9700	9700	9700	9700	9700	9700
7	Other Direct Costs	75	150	220	290	290	290	290	290	290	290	290	290
8	Travel International	0	13400	13400	20000	20000	20000	20000	20000	20000	20000	20000	20000
9	Travel Domestic	0	0	0	0	0	0	0	0	0	0	0	0
10	Travel Total:	0	13400	13400	20000	20000	20000	20000	20000	20000	20000	20000	20000
11	Non-Labor Expenses:	7525	22650	23020	29990	29990	29990	29990	29990	29990	29990	29990	29990
12	Total Expenses:	12040	31615	37495	50000	50000	50000	50000	50000	50000	50000	50000	50000
13	Overhead for the Institution	0	0	0	0	0	0	0	0	0	0	0	0
14	Total Project Cost:	12,040	31,615	37,495	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000

S8. Estimated expenditures by each participating institution /Кошторисні витрати організацій-учасників

#	Item	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
	L. Sakvarelidze National Center for Disease Control and Public Health													Overhead 0%
1	Days - FWS	65	62	87	89	0	0	0	0	0	0	0	0	303
2	Days - NFWS	64	65	67	66	0	0	0	0	0	0	0	0	262
	Total Days:	129	127	154	155	0	0	0	0	0	0	0	0	565
1	Grants - FWS	2380	2270	3270	3340	0	0	0	0	0	0	0	0	11260
2	Grants - NFWS	2135	2180	2240	2195	0	0	0	0	0	0	0	0	8750
3	Grants total:	4515	4450	5510	5535	0	0	0	0	0	0	0	0	20010
4	Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Materials	7450	1650	300	300	0	0	0	0	0	0	0	0	9700
6	OtherDirectCosts	75	75	70	70	0	0	0	0	0	0	0	0	290
7	Travel International	0	13400	0	6600	0	0	0	0	0	0	0	0	20000
8	Travel Domestic	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Travel Total:	0	13400	0	6600	0	0	0	0	0	0	0	0	20000
10	Non-Labor Expenses	7525	15125	370	6970	0	0	0	0	0	0	0	0	29990
11	Total Expenses	12040	19575	5880	12505	0	0	0	0	0	0	0	0	50000
12	Overhead	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Total project cost	12040	19575	5880	12505	0	0	0	0	0	0	0	0	50000

#	Item	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
1	Days - FWS	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Days - NFWS	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Days:	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Grants - FWS	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Grants - NFWS	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Grants total:	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Materials	0	0	0	0	0	0	0	0	0	0	0	0	0
6	OtherDirectCosts	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Travel International	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Travel Domestic	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Travel Total:	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Non-Labor Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Total Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Overhead	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Total project cost	0	0	0	0	0	0	0	0	0	0	0	0	0

#	Item	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
1	Days - FWS	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Days - NFWS	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Days:	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Grants - FWS	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Grants - NFWS	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Grants total:	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Materials	0	0	0	0	0	0	0	0	0	0	0	0	0
6	OtherDirectCosts	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Travel International	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Travel Domestic	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Travel Total:	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Non-Labor Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Total Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Overhead	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Total project cost	0	0	0	0	0	0	0	0	0	0	0	0	0

#	Item	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
1	Days - FWS	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Days - NFWS	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Days:	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Grants - FWS	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Grants - NFWS	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Grants total:	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Materials	0	0	0	0	0	0	0	0	0	0	0	0	0
6	OtherDirectCosts	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Travel International	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Travel Domestic	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Travel Total:	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Non-Labor Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Total Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Overhead	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Total project cost	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 10. List of Personnel

Emp. Number	Number in Project	Surname (RU)	First Name (RU)	Second Name (RU)	Surname (EN)	Name (EN)	Passport Number	Project Number	Bank Account Number	Bank ID	Category Number	Advance	% of participation	Daily Rate	Tax ID Number	I-Code	Position at the organization	Participation in other STCU projects	state project numbers and % of participation
	1	Зангеладзе	Екатерине	Давид	Zangaladze	Ekaterine	B-0340093	P531	GE30VT7000000176813611	1	1	333	63	40	1001025415	1	Chief Researcher	Yes	#P508-52%
	2	Буцашвили	Майа	Джумбер	Butsashvili	Maia	B-0289905	P531	GE89VT7000000012053601	1	2	67	10	40	1030013248	1	Deputy Director	No	
	3	Канделаки	Гиорги	Давид	Kandelaki	George	A-1196516	P531	GE91VT7000000012013601	1	2	67	10	40	1003004626	1	Deputy Director	No	
	4	Церетели	Давид	Гиорги	Tsereteli	David	G-0064039	P531	GE89VT7000000063883611	1	1	67	13	40	1015002004	1	Chief Researcher	Yes	#P508-56%
	5	Авалиани	Нато	Симон	Avaliani	Nato	A-1089104	P531	GE36VT1000000052394596	1	2	67	9	40	1017000630	1	Director	No	
	6	Цанава	Шота	Алекси	Tsanava	Shota	D-0443488	P531	GE20VT7600000035843611	1	1	152	23	35	1005006845	1	Head of Unit	Yes	#P496 -46.5%
	7	Гдзелидзе	Марине	Гиорги	Gdzelidze	Marine	B 0113931	P531	GE46VT7000000111853601	1	1	90	15	30	1026005417	1	Senior Specialist	Yes	#P508-16%
	8	Беришвили	Заза	Леван	Berishvili	Zaza	A-0144515	P531	GE52VT7000000011823601	1	2	152	23	35	1009007424	1	Head of Lab. Unit	No	
	9	Гвтадзе	Константине	Григол	Gvtadze	Konstantine	A-0168027	P531	GE96VT7000000003603611	1	2	120	22	30	600002007645	1	Head of Unit	No	
	10	Мерабишвили	Цира	Валериан	Merabishvili	Tsira	D-0375147	P531	GE91VT7000009911343601	1	2	120	23	30	1025016211	1	Senior specialist	No	
	11	Бурджанадзе	Ирма	Шота	Burdjanadze	Irma	D-1057581	P531	GE91VT7000000118163611	1	2	120	23	30	540001011202	1	Senior specialist	No	
	12	Кутателадзе	Тамар	Николоз	Kutateladze	Tamar	G-0030754	P531	GE95VT7000000003623611	1	1	152	23	35	1018000987	1	Chief Researcher	No	
										Total grant advance:		1907							

1 VTB Bank of Georgia (VTB Georgia)
Chanturia #14, Tbilisi(0102) , Georgia

Bank info
MFO UGEBGE 22
ZKPO None given
Transit Number 4354511