Georgian Research and Development Foundation

Georgia Early Career Scholars Program

AWARD AGREEMENT # A60217

PROJECT TITLE: RAISING AWARENESS ABOUT BARCODING OF SAND FLIES IN GEORGIA AND CAUCASUS

GRANTEE INFORMATION:

Principal Investigator	Mariam Zakalashvili
Principal Organization	National Center for Disease Control and Public Health (NCDC&PH)/Lugar Center
Address	16 Kakheti Highway, Tbilisi 0109, Georgia

GRDF REPRESENTATIVE

Nikoloz Burdiashvili
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AWARD FINANCIAL SUMMARY

Total Grant Ceiling (USD)	$18,000

Source Funding Information:

CRDF Global Agreement#	GRDF09, Mod08/60040, Annex P106226	CFDA #	12.351
DTRA Agreement #	HDTRA1-11-1-0061	Authorization	10 U.S.C. 2358 as amended
Appropriation	AB: 9710134.34HQ 1300 C11D 255999 BT04669000 S49012		

TERM

Award Duration	12 months

The Project Agreement consists of:
(1) Cover Sheet
(2) Award General Terms & Conditions
(3) Appendix A: Project Personnel
(4) Appendix B: Project Budget
(5) Appendix C: Standard Provision - U.S. Department of Defense, DTRA
(6) Documents Incorporated by Reference: Proposal "ECSP-13-03"

SIGNATURES

Principal Investigator Signature	Typed Name/Title	Date
	Mariam Zakalashvili MS	09.12.2014
Authorized Institute signature / stamp	Typed Name/Title	Date
	AMIRAN GAMKRELIDZE	09.12.2014
GRDF Signature / Stamp	Typed Name/Title	Date
	George Khokhobashvili/Executive Director	11.12.2014.

GENERAL TERMS AND CONDITIONS

ARTICLE 1 - PROGRAM DESCRIPTION.
The purpose of the Agreement is to support the activities described in the Grantee's Proposal titled "*Raising Awareness about Barcoding of Sand Flies in Georgia and Caucasus*", hereby incorporated by reference. Grantee agrees to use all Grant support (including both funds and in-kind) and other support and the Grantee Contribution only for such activities.

ARTICLE 2 - AGREEMENT PERIOD.
Unless/until extended by Amendment, the Agreement Period commences upon date of execution of the Agreement by all parties and terminates upon expiration of the duration noted in the Grant Agreement Cover Sheet.

ARTICLE 3- BUDGET.
Grantee agrees to comply strictly with the Budget set forth in Attachment B (hereafter referred to as "Budget") and may not move funds between line items without GRDF approval.

ARTICLE 4 - ELIGIBLE COSTS.
Grantee may use Grant funds only for Grantee's verifiable, reasonable, allocable and allowable direct costs necessary for performance of the activities specified in the Project. All such costs must comply with the terms and conditions of the Agreement and must be incurred and expended in the Agreement Period.

ARTICLE 5 - AMOUNT OF GRANT FUNDS
The maximum amount of Grant funds and GRDF Grant support available to the Grantee is the Total Grant Ceiling specified on the Cover Sheet. GRDF's aggregate liability arising out of or relating to the Agreement may not under any circumstances exceed the Total Grant Ceiling. The Principal Organization is solely responsible for any overruns.

ARTICLE 6 - REPORTS.
Grantee shall be required to submit technical and financial reports in a format to be provided by GRDF. Reports shall be submitted electronically to GRDF. Grantee shall submit interim progress reports every quarter from the effective date of the award. Grantee shall submit a final technical and financial report with 30 days of the expiration of the award. The Grantee will also submit Development Report within nine months upon expiration of the award.

ARTICLE 7 - NOTIFICATION OF CERTAIN EVENTS.
Grantee shall notify GRDF, in writing, of the occurrence of any of the following events:

A. Any significant change in the methodology or procedures being used in the Project from those discussed in the proposal;
B. Any significant or major findings, breakthroughs, or events of unusual interest;
C. Any problems, delays or adverse conditions that will materially affect the Project, its objectives or time schedules and actions being taken to address them;
D. Any changes in key personnel or their status on the Project; and
E. Any change in a Principal Investigator's institution, mailing address, telephone or fax numbers, or e-mail address;
F. Any change in or absence of a Principal Investigator or project key personnel for a period longer than thirty (30) days;
G. Any change in key personnel's level of effort devoted to the Project;
H. Any significant change in the Project objectives or scope;

All changes in key personnel, budget reallocation requests (per subparagraph (I) above), and/or changes in Project objectives or scope are subject to GRDF approval.

ARTICLE 8 - PAYMENTS.

Grantee will receive payment for allowable Eligible Costs on a cost-reimbursable basis and in accordance with the Budget. All expenses must be documented with appropriate receipts and invoices. Payments will be made in reimbursement to Grantee, unless specifically authorized in advance for individual travel and consumable materials and supplies.

ARTICLE 9 - KEY PERSONNEL.
Principal Investigators and other Project Personnel are subject to approval prior to initial assignment and any replacement. Approval is hereby provided for Project Personnel specifically named in Attachment A. Departure of one or more Key Personnel, or his/her/their repeated or extended absence from the Program, may be cause for termination of the Agreement by GRDF.

ARTICLE 10- TIMEKEEPING.
Eligible individual financial support costs will be based on actual level of effort of Project Personnel and must be supported by individual timesheets subject to the following provisions:

a. Individual timesheets, signed by both the requesting Project Personnel and the responsible Principal Investigator. Timesheets are to be maintained daily and submitted to the Principal Investigator on a monthly basis for review and approval.
b. Project Personnel must use a GRDF-provided timesheet template, unless an alternative template has been approved. Timesheets will be completed based on actual time worked on GRDF-funded activities, with working hours being recorded on the provided timesheet template.
c. The Principal Investigator is responsible for monitoring and documenting Project Personnel's compliance with timekeeping and reporting requirements; ensuring that Project Personnel are trained and informed on the timekeeping and reporting requirements; ensuring the timely collection of timesheets from all Project Personnel on the project each month; reviewing of timesheets for accuracy; certifying the accuracy of the timesheets collected; ensuring that payment requests are submitted to GRDF in a timely manner; and maintaining timesheet records for the Project.

ARTICLE 11 – INDIVIDUAL FINANCIAL SUPPORT.
Payments to individual project participants will be made in the form of individual grants (grant of physical person) to each designated Project Participant. Payments of individual grants will be made directly to individual bank accounts designated by GRDF for the benefit of the individual participant in accordance with current CRDF/GRDF procedures

ARTICLE 12 – MATERIALS, EQUIPMENT, SUPPLIES AND SERVICES.
Principal Organization shall submit all requests for purchase of materials, equipment, supplies or services to GRDF in such form and detail as may be specified in the applicable CRDF/GRDF procedures. Payments are made on behalf of the PO by GRDF directly to the approved vendor(s), unless otherwise agreed in writing by GRDF

ARTICLE 13 - EQUIPMENT.
Items over $1,000 or local currency equivalent per unit acquisition cost and with a usable life of longer than one year shall be defined as Equipment. Purchase of equipment is subject to the following provisions:

a. No Equipment other than items identified in the Budget may be acquired under this Agreement
b. All Equipment must be clearly and prominently marked as having been provided (or financed) by GRDF.
c. All equipment and other property acquired under this Agreement must remain available to and be used for the Project, and may not be sold, leased, mortgaged or otherwise transferred, or used for any non-Project purpose, be located and maintained at the premises of the Grantee or an authorized Collaborator, as appropriate, and remain accessible for viewing, examination or audit unless GRDF agrees otherwise in writing.
d. Unless otherwise stipulated Equipment and other physical property received by the Grantee or Collaborator under this Agreement is supplied in the capacity of technical assistance and is transferred to the Grantee or Collaborator as authorized by GRDF.
e. Title to Equipment and other property acquired under this Agreement will vest in the Grantee or Collaborator, as appropriate, unless otherwise directed by GRDF in writing.

f. Use of any Equipment or other property acquired under this Agreement by military end-users or for military purposes is expressly prohibited.
g. The Grantee shall ensure that all Equipment and other property provided under this Agreement is maintained in a manner consistent with its specifications and reasonable care, security and maintenance.
h. In the event this Agreement is terminated for cause or the Grantee is in material breach thereof, GRDF may, at its sole discretion, require that any Equipment and property acquired under this Agreement be returned to GRDF or transferred to a third party as directed by GRDF. The shipping costs related to the return or transfer of the Equipment and property will be borne by GRDF.
i. Within thirty days of receipt of Equipment, Grantee will prepare and return to GRDF an itemized receiving report, signed by an authorized representative, confirming receipt in apparent good order and working condition and registration of the Equipment on the Grantee's balance sheet. The report will be in a form to be provided by GRDF.

ARTICLE 14 - TRAVEL.
All travel undertaken by Grantee must be authorized in writing by the GRDF Representative at least 10 business days in advance and is subject to the following provisions:

a. Travel Allowances (meals, incidentals & lodging expenses) may not exceed current US government rates.
b. All air transportation purchased must be at the "lowest logical airfare" subject to the Fly America Act. "Lowest logical airfare" is defined as the lowest cost alternative that accommodates business commitments at the place of departure and travel destination. Premium-, Business-class and first-class tickets are not allowable expenses under this Agreement.
c. Traveler's medical insurance is required for the duration of each trip.
d. Brief trip reports detailing the purpose and outcome(s) of travel undertaken must be submitted by individual travelers no later than 30-days following return.

ARTICLE 15 - FLY AMERICA ACT.
The following provisions shall govern the air transportation of persons and property utilizing funds provided under this Agreement.

a. Any air transportation to, from, between, or within a country other than the U.S. of persons or property, the expense of which will be assisted by GRDF funding, must be performed by or under a code-sharing arrangement with a U.S.-flag carrier if service provided by such a carrier is available. Tickets (or documentation for electronic tickets) must identify the U.S. flag air carrier's designator code and flight number.
b. For the purposes of this requirement, U.S. flag air carrier service is considered available even though:
    1. Comparable or a different kind of service can be provided at less cost by a foreign air carrier;
    2. Foreign air carrier service is preferred by or is more convenient for the agency of traveler; or
    3. Service by a foreign air carrier can be paid for in excess foreign currency.
c. The following rules apply unless their application would result in the first or last leg of travel from or to the U.S. being performed by a foreign-flag carrier.
    1. A U.S.-flag air carrier shall be used to destination or, in the absence of direct or through service, to the farthest interchange point on a usually traveled route
    2. If a U.S.-flag air carrier does not serve an origin or interchange point, a foreign-flag air carrier shall be used only to the nearest interchange point on a usually traveled route to connect with a U.S. flag air carrier.
d. If a U.S.-flag carrier involuntarily reroutes the traveler via a foreign-flag air carrier, the foreign-flag air carrier may be used notwithstanding the availability of U.S.-flag air carrier service.
e. Travel to and from the United States: Use of a Foreign-Flag Air Carrier is permissible if:
    1. The airport abroad is the traveler's origin or destination airport, and use of U.S.-flag air carrier service would extend the time in a travel status by at least 24 hours more than travel by a foreign-flag air carrier; or
    2. The airport abroad is an interchange point, and use of U.S.-flag air carrier service would increase the number of aircraft changes the traveler must make outside of the U.S. by 2 or more, would require the traveler to wait four hours or more to make connections at that point, or would extend the time in a travel status by at least six hours more than travel by a foreign-flag air carrier.

f. Travel Between Points Outside the United States: Use of a foreign-flag air carrier is permissible if:
    1. Travel by foreign air carrier would eliminate two or more aircraft changes en route;
    2. Travel by a U.S.-flag air carrier would require a connecting time of four hours or more at an overseas interchange point; or
    3. The travel is not part of a trip to or from the United States and the use of a U.S. flag carrier would extend the time in a travel status by at least six hours more than the travel by foreign air carrier.
g. Short-Distance Travel: For all short-distance travel, regardless of origin and destination, use of a foreign-flag air carrier is permissible if the elapsed travel time on a scheduled flight from origin to destination airport by a foreign-flag air carrier is three hours or less and service by a U.S.-flag carrier would double the travel time.
h. In the event that individual Project Personnel traveling under this Agreement invokes one of above-referenced exceptions to the Fly America regulations, he/she must provide a written "CERTIFICATION OF UNAVAILABILITY OF U.S.-FLAG CARRIERS stating: "I [the traveler] hereby certify that the transportation service for personnel (and their personal effects) or property by certified U.S. air carrier was unavailable for the following reason(s): [State appropriate reason(s) as set forth above].

ARTICLE 16 – INSTITUTIONAL SUPPORT.

a. Principal Organization shall submit request for Institutional Support funds to GRDF in such form and detail as may be specified in the applicable CRDF/GRDF procedures. Payment is made by GRDF directly to the Institute bank account.
b. Institutional Support funds must be utilized for direct and/or indirect institutional expenses related to the execution of the Project. Such costs may include, but are not limited to, renovation to research facilities, payment of utilities costs and administrative expenses related to the Project, and other Project-related costs.
c. Unless otherwise indicated, Institutional Support payment under this Agreement will be made on a cost-reimbursable basis

ARTICLE 17 – INTELLECTUAL PROPERTY.

Attachment C: Special Terms & Conditions contains the Intellectual Property provisions for this Agreement.

ARTICLE 18 - CONFLICTS OF INTEREST.

All Grantees shall adhere to the highest ethical standards in all matters related to the Agreement, and shall assure that the Project Personnel adhere to those standards.

For purposes of this Article—

"Conflict of Interest" means a family or other personal relationship, a business or financial interest, or any other relationship, interest or activity that

(i) impairs (or might impair) his/her objectivity in performing his/her obligations under this Agreement;
(ii) makes him/her unable to render impartial assistance or advice under this Agreement; or
(iii) gives him/her an unfair competitive advantage.

"Interest" means a relationship of any kind from which a person or organization derives (or might derive) pecuniary or in-kind benefits.

No Grantee or Project Personnel may participate in any decision involving the obligation of Grant funds or the use or disposition of Grant funds if he/she knows, or reasonably should know, that such participation involves an actual or potential Conflict or Interest, or the appearance of such a Conflict of Interest.

To implement this requirement the Grantee will:

Disclose promptly to GRDF any close family relationship or interest that may constitute or create a Conflict of Interest or the appearance of a Conflict of Interest;

- Refrain from participating in, and from using his/her personal influence in connection with, decisions where such participation may involve a Conflict of Interest or the appearance of a Conflict of Interest except:
    To provide information when requested, or

To provide information known to him/her indicating that a proposed or existing transaction could be contrary to this policy.

- Refrain from dealing on behalf of GRDF with organizations or persons on transactions involving the obligation of Project funds or the use or disposition of Project Resources except after full disclosure and with the express written authorization of GRDF Agreement Representative.
- Assure that Project Personnel comply with the requirements of this Article.

The Grantee will monitor its relationships and interests, and those of the Project Personnel, on an ongoing basis and will report any relationships or interests that might violate the provisions of this Article.

ARTICLE 19 - WHISTLEBLOWER POLICY.
It is the policy of CRDF Global that grantees, vendors and contractors are encouraged and expected to report possible violations of laws, rules and regulations, as well as fraudulent or dishonest use or misuse of CRDF Global resources or property, violations of CRDF Global's conflict of interest policy and other serious misconduct. Reports may be made directly to CRDF Global management (who can be contacted via the main CRDF Global website www.crdfglobal.org or via the Global Compliance hotline available at https://crdfglobal.alertline.com/gcs/welcome?locale=en. All information will be treated confidentially and all complaints will be investigated by CRDF Global management and regularly reported to the Audit Committee of the Board of Directors. CRDF Global will not retaliate, nor will CRDF Global tolerate retaliation by any of its employees, against any grantee, vendor or contractor who makes a good faith report pursuant to this policy; even if an investigation shows that there has not been a violation.

ARTICLE 20 - CONFIDENTIAL INFORMATION.
Confidential information, as used in this Agreement, means: 1) information or data of a personal nature about an individual or 2) information or data submitted by or pertaining to the Grantee, Secondary Collaborators, subcontractors, subawardees or GRDF.

All aspects of this Agreement, except its financial aspects and information specifically designated as confidential in accordance with the provisions set forth in this Agreement, are considered accessible to the public. Confidential information, as defined in (1) and (2) above, shall not be disclosed without the prior written consent of the Grantee, Project Personnel, or GRDF.

In addition to the types of confidential information described above, information which might require special consideration with regard to the timing of its disclosure may derive from studies or research, during which public disclosure of preliminary invalidated findings could create erroneous conclusions which might threaten public health or safety if acted upon.

GRDF reserves the right at any time, or from time to time, during the Agreement Period to designate certain information to be used, generated or compiled pursuant to Agreement activities as "confidential information." In the event that this right is exercised, Grantee agrees to comply with any written instructions that GRDF may provide with respect to the handling or retention of such information.

ARTICLE 21 - DEBARMENT AND OTHER RESPONSIBILITY MATTERS.
By signing this Agreement, the Grantee certifies that neither it nor any individual Project Personnel is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from activities subject to the debarment or suspension, by any US Federal or local department or agency. Grantee is responsible for notifying GRDF immediately in writing if it or individual Project Personnel becomes debarred, suspended, declared ineligible or voluntarily excluded from activities to subject to debarment or suspension or is proposed for debarment.

ARTICLE 22 - COMPLIANCE WITH LAW.
In performing its duties under the Agreement, Grantee shall ensure that it strictly complies with all applicable laws and mandatory public policies (including, but not limited to, those relating to corporate operations, taxation, employment and the environment), and shall be solely responsible for all costs, risks and delays resulting from doing so, or the failure to do so.

ARTICLE 23 - FOREIGN TAXES AND RELATED CONSIDERATIONS.

Funds provided under this Agreement may not be used to pay any customs, duties, taxes, fees or other such levies and costs incurred within the territory of the Grantee's country. Grantee shall inform GRDF immediately, in writing, of any tax or duty imposed on funds or materials provided by GRDF under this Agreement. Grantee shall comply with all applicable local tax regulations and reporting requirements, and Grantee may choose to seek advice from appropriate tax authorities or other professionals to ensure their compliance.

ARTICLE 24- RECORDS, AUDIT & ACCESS.

Financial and other records pertinent to this Agreement shall be retained for a period of not less than three (3) years from the expiration date of this Agreement. Timely, unrestricted access to Agreement records will be provided to GRDF, its representatives and Funders in order to make audits, examinations, excerpts, transcripts, and copies of such documents. This right also includes timely and reasonable access to the Grantee's facilities where Agreement-related activities are being performed and access to Grantee project personnel. The rights of access in this paragraph are not limited to the required retention period, but must last as long as records are retained.

ARTICLE 25 - MONITORING AND EVALUATION.

GRDF will appropriately monitor and evaluate ("M&E") the financial and programmatic progress of Agreement activities. Grantee agrees to cooperate with all reasonable requests for assistance in connection with such M&E, including but not limited to facilitating site visits, closely tracking the performance and impact of Program activities and maintaining and providing records or other information pertinent to such activities. Grantee also agrees to prepare and submit required reports (if any) in a timely manner

ARTICLE 26 - ANIMAL WELFARE.

Any Non-U.S. Grantee whose project involves the care or use of vertebrate animals at a foreign institution or foreign field site also require approval of research protocols by the Grantee's IACUC. If the project is to be funded through an award to a foreign institution or through an individual fellowship award that will support activities at a foreign institution, GRDF will require a statement of compliance that the activities will be conducted in accordance with all applicable laws in the foreign country and that the International Guiding Principles for Biomedical Research Involving Animals (see http://www.cioms.ch/) will be followed.

ARTICLE 27 - LIABILITY.

Grantee agrees and shall require individual Project Personnel to agree that GRDF shall have no liability to the Grantee, Project Personnel or any other entity or person for any claims arising out of, or related to, the performance of this Agreement or the representations or warranties made by the Grantee and Project Personnel herein except if, and to the extent, due to the negligent, willful or intentional misconduct of GRDF, its officers, employees or agents. In addition, except as prohibited by applicable law, all parties to this Agreement assume their own respective liability that may be incurred, including attorney's fees, in defending any action as a result of performance under this Agreement to the extent such liability is a result of the party's negligent, willful or intentional misconduct. The Grantee is advised to take such steps as may be deemed necessary to insure or protect themselves, their employees and property.

ARTICLE 28 - FORCE MAJEURE.

No party shall be liable for any failure to perform its obligations under this Agreement, if such failure results from any Acts of God, Acts of War, riot, civil unrest, flood, earthquake or other similar cause beyond such party's reasonable control (including any mechanical, electronic or communications failure, but excluding failure caused by a party's financial condition or negligence).

ARTICLE 29 - SUSPENSION.

At any time during the Agreement Period, GRDF may suspend the Agreement for any reason for up to 60 days, or longer if deemed necessary. Suspension may be in whole or in part and shall be effective on the date stated in a written notice to Grantee. The notice will identify the type of action taken and instruct Grantee to cease incurring costs for Project activities, subject to any exceptions stated.

ARTICLE 30 - TERMINATION.

At any time during the Agreement Period GRDF may take any one or more of the following actions: [a] unilaterally terminate the Agreement for convenience with fifteen days' notice [b] unilaterally terminate the Agreement due to Grantee's material breach or noncompliance with the terms and conditions of the Agreement, Grantee insolvency, or upon the direction of any cognizant government official or requirement of applicable law; [c] terminate by mutual agreement of the Parties; or [d] terminate at Grantee's request. Termination shall be effective on the date stated in a written notice to Grantee.

ARTICLE 31 - RESOLUTION OF DISPUTES.
The Parties will exert their best efforts to consult and resolve all issues in connection with the Agreement amicably, equitably and in a mutually satisfactorily manner. Issues that cannot be resolved by communications between the contact persons specified on the Cover Sheet will be reviewed by each Party's senior management. Any remaining issues may be resolved by any agreed non-judicial procedure, absent agreement on which the sole recourse of either Party shall be the courts in Tbilisi, Georgia. Claims may not include losses, damages or other relief based on harm that could have been avoided or mitigated by reasonable actions of the claiming Party or any exemplary, consequential or punitive damages, however described.

ARTICLE 32 - AMENDMENTS.
The Agreement may only be modified by a written amendment signed by both Parties.

ARTICLE 33 - PUBLICATIONS.
Publication of results of the research project in an appropriate professional journal is encouraged as an important method of recording and reporting scientific information. One copy of each accepted publication should be forwarded to GRDF, CRDF and DTRA as a courtesy.

- Upload the Publication to the DTRA Basic and Fundamental Research Community Portal (www.dtrasubmission.net/portal) (file name should be the Grant number and 'Publication', e.g. HDTRA1-11-1-9999 Publication) of less than 10 MB.

The Grantee agrees that in the release of information relating to this Agreement, such release shall include the following statement, "The project or effort depicted was or is sponsored by the Department of the Defense, Defense Threat Reduction Agency. The content of the information does not necessarily reflect the position or the policy of the federal government, and no official endorsement should be inferred."

For purposes of this provision, information includes news releases, articles, manuscripts, brochures, advertisements, still and motion pictures, speeches, trade association proceedings, symposia, etc.

ATTACHMENT A:
PROJECT PERSONNEL

The following Principal Investigator(s) and/or other staff ("Project Personnel") are deemed essential to successful implementation of the activities specified in the Project:

Name	Institution	DOB
Mariam Zakalashvili	National Center for Disease Control and Public Health (NCDC&PH)/Lugar Center	26.07.1964

These individuals may not be replaced without prior written approval of GRDF.

The Principal Investigator is responsible for overseeing the technical work to be performed under the Project; for providing technical leadership; for preparing and submitting payment requests and required reports in accordance with GRDF guidelines and the policies of his/her respective institution; for ensuring that activities are coordinated with his institution, Project Personnel, and Collaborator(s); and for managing the Project in compliance with terms of this Agreement.

ATTACHMENT B:
BUDGET

The approved award budget and schedule of payments is hereby incorporated by reference.

ECSP #60217
Grantee Award Budget and Schedule of Payments
Early Career Scholar Program

INDIVIDUAL FINANCIAL SUPPORT (IFS)			
Participant Names	Total # Person-hours	Hourly rate	TOTAL
Mariam Zakalashvili			
		INDIVIDUAL FINANCIAL SUPPORT	

PROJECT EQUIPMENT	
Item Description	TOTAL
EQUIPMENT	
SUPPLIES & SERVICES	

EQUIPMENT, SUPPLIES & SERVICES	
TRAVEL	$18,000
INSTITUTIONAL SUPPORT	
GRANTEE BUDGET	**$18,000**

ATTACHMENT C:
STANDARD PROVISIONS
U.S. DEPARTMENT OF DEFENSE, DEFENSE THREAT REDUCTION AGENCY

1. Agency Terms & Conditions. This Agreement and the activities thereunder are subject to the U.S. Department of Defense, Defense Threat Reduction Agency General Terms and Conditions for Grant Awards. The full text of those Terms and Conditions may be found at the following link: https://www.dtrasubmission.net/portal/Library/Terms%20and%20Conditions%20v2%20%28International%29%281MAY12%29_WAWF.pdf

2. Intangible Property. Rights in copyrights, technical data and computer software, data required for a response to a Freedom of Information Act (FOIA) request, and other forms of intangible property, shall be provided in accordance with DoDGARs §32.36.

    a) The recipient may copyright any work that is subject to copyright and was developed, or for which ownership was purchased, under an award. DoD Components reserve a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so.
    b) Recipients are subject to applicable regulations governing patents and inventions, including Governmentwide regulations issued by the Department of Commerce at 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements."
    c) The Federal Government has the right to:
        i. Obtain, reproduce, publish or otherwise use the data first produced under an award; and
        ii. Authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes
    d) In addition, in response to a Freedom of Information Act (FOIA) request for research data relating to published research findings produced under an award that were used by the Federal Government in developing an agency action that has the force and effect of law, the DoD Component that made the award shall request, and the recipient shall provide, within a reasonable time, the research data so that they can be made available to the public through the procedures established under the FOIA. If the DoD Component that made the award obtains the research data solely in response to a FOIA request, the DoD Component may charge the requester a reasonable fee equaling the full incremental cost of obtaining the research data. This fee should reflect costs incurred by the DoD Component, the recipient, and applicable subrecipients. This fee is in addition to any fees the DoD Component may assess under the FOIA (5 U.S.C.552(a)(4)(A)).

        The following definitions apply for purposes of paragraph (d) of this section:
        i. Research data is defined as the recorded factual material commonly accepted in the scientific community as necessary to validate research findings, but not any of the following: preliminary analyses, drafts of scientific papers, plans for future research, peer reviews, or communications with colleagues. This "recorded" material excludes physical objects (e.g., laboratory samples). Research data also do not include:
            a. Trade secrets, commercial information, materials necessary to be held confidential by a researcher until they are published, or similar information which is protected under law; and
            b. Personnel and medical information and similar information the disclosure of which would constitute a clearly unwarranted invasion of personal privacy, such as information that could be used to identify a particular person in a research study.
        ii. Published is defined as either when:
            a. Research findings are published in a peer-reviewed scientific or technical journal; or
            b. A Federal agency publicly and officially cites the research findings in support of an agency action that has the force and effect of law.
            c. Used by the Federal Government in developing an agency action that has the force and effect of law is defined as when an agency publicly and officially cites the research findings in support of an agency action that has the force and effect of law

    e) Title to intangible property and debt instruments acquired under an award or subaward (rather than developed or produced under the award or subaward) vests upon acquisition in the recipient. The recipient shall use that property for the originally-authorized purpose, and the recipient shall not encumber the property without approval of the DoD Component that made the award. When no longer needed for the originally authorized purpose, disposition of the intangible property shall occur in accordance with the provisions of §32.34(g).

3. Patent Rights. All awardees shall comply with the following, in accordance with 37 CFR §401.14. Note: "Contractor" equals "Grantee", "Subcontractor" equals "Subawardee", and "Subcontract" equals "Subaward".

a) Definitions
   i. Invention means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code, or any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.).
   ii. Subject invention means any invention of the contractor conceived or first actually reduced to practice in the performance of work under this contract, provided that in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d)) must also occur during the period of contract performance.
   iii. Practical Application means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or government regulations, available to the public on reasonable terms.
   iv. Made when used in relation to any invention means the conception or first actual reduction to practice of such invention.
   v. Small Business Firm means a small business concern as defined at section 2 of Pub. L. 85–536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in government procurement and subcontracting at 13 CFR 121.3–8 and 13 CFR 121.3–12, respectively, will be used.
   vi. Nonprofit Organization means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c) and exempt from taxation under section 501(a) of the Internal Revenue Code (25 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute
b) Allocation of Principal Rights. The Contractor may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the Contractor retains title, the Federal government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.
c) Invention Disclosure, Election of Title and Filing of Patent Application by Contractor
   i. The contractor will disclose each subject invention to the Federal Agency within two months after the inventor discloses it in writing to contractor personnel responsible for patent matters. The disclosure to the agency shall be in the form of a written report and shall identify the contract under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the agency, the Contractor will promptly notify the agency of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the contractor.
   ii. The Contractor will elect in writing whether or not to retain title to any such invention by notifying the Federal agency within two years of disclosure to the Federal agency. However, in any case where publication, on sale or public use has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by the agency to a date that is no more than 60 days prior to the end of the statutory period.
   iii. The contractor will file its initial patent application on a subject invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. The contractor will file patent applications in additional countries or international patent offices within either ten months of the corresponding initial patent application or six months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.
   iv. Requests for extension of the time for disclosure, election, and filing under subparagraphs (1), (2), and (3) may, at the discretion of the agency, be granted.
d) Conditions When the Government May Obtain Title. The contractor will convey to the Federal agency, upon written request, title to any subject invention:
   i. If the contractor fails to disclose or elect title to the subject invention within the times specified in (c), above, or elects not to retain title; provided that the agency may only request title within 60 days after learning of the failure of the contractor to disclose or elect within the specified times.
   ii. In those countries in which the contractor fails to file patent applications within the times specified in (c) above; provided, however, that if the contractor has filed a patent application in a country after the times specified in (c) above, but prior to its receipt of the written request of the Federal agency, the contractor shall continue to retain title in that country.

iii. In any country in which the contractor decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

e) Minimum Rights to Contractor and Protection of the Contractor Right to File

i. The contractor will retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the contractor fails to disclose the invention within the times specified in (c) above. The contractor's license extends to its domestic subsidiary and affiliates, if any, within the corporate structure of which the contractor is a party and includes the right to grant sublicenses of the same scope to the extent the contractor was legally obligated to do so at the time the contract was awarded. The license is transferable only with the approval of the Federal agency except when transferred to the successor of that party of the contractor's business to which the invention pertains.

ii. The contractor's domestic license may be revoked or modified by the funding Federal agency to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR part 404 and agency licensing regulations (if any). This license will not be revoked in that field of use or the geographical areas in which the contractor has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of the funding Federal agency to the extent the contractor, its licensee, or the domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

iii. Before revocation or modification of the license, the funding Federal agency will furnish the contractor a written notice of its intention to revoke or modify the license, and the contractor will be allowed thirty days (or such other time as may be authorized by the funding Federal agency for good cause shown by the contractor) after the notice to show cause why the license should not be revoked or modified. The contractor has the right to appeal, in accordance with applicable regulations in 37 CFR part 404 and agency regulations (if any) concerning the licensing of Government owned inventions, any decision concerning the revocation or modification of the license.

f) Contractor Action to Protect the Government's Interest

i. The contractor agrees to execute or to have executed and promptly deliver to the Federal agency all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the contractor elects to retain title, and (ii) convey title to the Federal agency when requested under paragraph (d) above and to enable the government to obtain patent protection throughout the world in that subject invention.

ii. The contractor agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the contractor each subject invention made under contract in order that the contractor can comply with the disclosure provisions of paragraph (c), above, and to execute all papers necessary to file patent applications on subject inventions and to establish the government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by (c)(1), above. The contractor shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

iii. The contractor will notify the Federal agency of any decisions not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than thirty days before the expiration of the response period required by the relevant patent office.

iv. The contractor agrees to include, within the specification of any United States patent applications and any patent issuing thereon covering a subject invention, the following statement, "This invention was made with government support under (identify the contract) awarded by (identify the Federal agency). The government has certain rights in the invention."

g) Subcontracts

i. The contractor will include this clause, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental or research work to be performed by a small business firm or domestic nonprofit organization. The subcontractor will retain all rights provided for the contractor in this clause, and the contractor will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

ii. The contractor will include in all other subcontracts, regardless of tier, for experimental developmental or research work the patent rights clause required by (cite section of agency implementing regulations or FAR).

h) Reporting on Utilization of Subject Inventions. The Contractor agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the contractor or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the contractor, and such other data and information as the agency may reasonably specify. The contractor also agrees to provide additional reports as may be requested by the agency in connection with any march-in proceeding undertaken by the agency in

accordance with paragraph (j) of this clause. As required by 35 U.S.C. 202(c)(5), the agency agrees it will not disclose such information to persons outside the government without permission of the contractor

i) Preference for United States Industry. Notwithstanding any other provision of this clause, the contractor agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency upon a showing by the contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

j) March-in Rights. The contractor agrees that with respect to any subject invention in which it has acquired title, the Federal agency has the right in accordance with the procedures in 37 CFR 401, and any supplemental regulations of the agency to require the contractor, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the contractor, assignee, or exclusive licensee refuses such a request the Federal agency has the right to grant such a license itself if the Federal agency determines that:
   i. Such action is necessary because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use.
   ii. Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee or their licensees;
   iii. Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the contractor, assignee or licensees, or
   iv. Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

k) Special Provisions for Contracts with Nonprofit Organizations. IF the contractor is a nonprofit organization, it agrees that:
   i. Rights to a subject invention in the United States may not be assigned without the approval of the Federal agency, except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the contractor;
   ii. The contractor will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when the agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;
   iii. The balance of any royalties or income earned by the contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education; and
   iv. It will make efforts that are reasonable under the circumstances to attract licensees of subject invention that are small business firms and that it will give a preference to a small business firm when licensing a subject invention if the contractor determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms; provided, that the contractor is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the contractor. However, the contractor agrees that the Secretary may review the contractor's licensing program and decisions regarding small business applicants, and the contractor will negotiate changes to its licensing policies, procedures, or practices with the Secretary when the Secretary's review discloses that the contractor could take reasonable steps to implement more effectively the requirements of this paragraph (k)(4).

l) Communication. All DTRA-related disclosures, confirmatory licenses to the government, patent applications, and other communications should be submitted in accordance with Article 21m. Questions should be submitted to basicresearch@dtra.mil.

m) Invention Reporting. 37 CFR Part 401 invention reporting requirements are summarized in the general terms and conditions available at: https://www.dtrasubmission.net/portal/Library/Terms%20and%20Conditions%20v2%20%28International%29%281MAY12%29_WAWF.pdf. Unless otherwise indicated in the "Submission to DTRA" column, the grantee is required to upload the following types of invention information using iEdison. iEdison (https://s-edison.info.nih.gov/iEdison/), is a single web interface for government grantees to report details of inventions and patents. If the grantee organization is not already an iEdison registrant, then registration with iEdison is required prior to submission of the below invention reports

4. Human & Animal Subjects. By signing this agreement or accepting funds under this agreement, the recipient assures that it will comply with applicable provisions of the following national policies concerning live organisms:

a) For human subjects:
   i. The Common Federal Policy for the Protection of Human Subjects, codified by the Department of Health and Human Services at 45 CFR Part 46 and implemented by the Department of Defense at 32 CFR Part 219.
   ii. The recipient shall adhere to DTRA local clause 252.223-9002–Protection of Human Subjects (Aug 2010). The full text of this clause is as follows: All research under this grant involving human subjects must be conducted in accordance with 32 CFR 219, 10 USC 980, and DoDD 3216.02, as well as other applicable federal and state regulations. Grantees must be cognizant of and abide by the additional restrictions and limitations imposed on the Do regarding research involving human subjects, specifically as regards vulnerable populations (32 CFR 219 modifications to subparts B-D of 45 CFR 46), recruitment of military research subjects (32 CFR 219), and surrogate consent (10 USC 980). DTRA\Directive 3216.01 of June 9, 2010 establishes the DTRA Human Subjects Protection Program, sets forth the policies, defines the applicable terms, and delineates the procedures necessary to ensure DTRA compliance with federal and DoD regulations and legislation governing human subject research. The regulations mandate that all DoD activities, components, and agencies protect the rights and welfare of human subjects of study in DoD-supported research, development, test and evaluation, and related activities hereafter referred to as "research". The requirement to comply with the regulations applies to new starts and to continuing research. The DTRA directive requires that research using human subjects may not begin or continue until the Defense Threat Reduction Agency's Research Oversight Board (ROB) has reviewed and approved the proposed protocol.

   Grantees and subcontractors are required to submit a valid federal assurance for their organization (institution, laboratory, facility) that has been issued by either DoD or the Department of Health and Human Services, and documentation of review of proposed protocols by the local Institutional Review Board (IRB) to include consent forms for any planned research using human subjects to the DTRA ROB for its review through the Grants Officer's representative (if assigned) or the Grants Officer. The ROB review is separate from, and in addition to, local IRB review.

   A study is considered to involve human research subjects if: there is interaction with the subject (even if simply talking to the subject qualifies; no needles are require); and 2) if the study involves collection and/or analysis of personal/private information about an individual, or if material used in the study contains links to such information. Written approval to begin research or subcontract for the use of human subjects under the proposed protocol will be provided in writing from the DTRA ROB, through the Grants Officer. A copy of this approval shall be maintained by both the Grantee and the government. Any proposed modifications or amendments to the approved protocol or consent forms must be submitted to the local IRB and the DTRA ROB for review and approval. Examples of modifications/amendments to the protocol include but are not limited to:
      a. a change of the PI;
      b. changes in duration or intensity of exposure to some stimulus or agent;
      c. changes in the information requested of volunteers, or changes to the use of specimens or data collected; or changes in perceived or measured risks or benefits to volunteers that require changes to the study.

   Research pursuant to such modifications or amendments shall not be initiated without IRB and ROB approval except when necessary to eliminate apparent and immediate hazards to the subject(s). Research projects lasting more than one year require IRB review at least annually, or more frequently as required by the responsible IRB. ROB review and approval is required annually. The Grantee or subcontractor must provide documentation of continued IRB review of protocols for ROB review and approval in accordance with these Terms and Conditions. Research must not continue without renewed ROB approval unless necessary to eliminate apparent and immediate hazards to the subject(s). Non-compliance with any provision of this clause may result in withholding of payments under the grant pursuant to the grant's payments clause(s) and/or grant termination pursuant to the grant's termination clause(s).

   The government shall not be responsible for any costs incurred for research involving human subjects prior to protocol approval by the ROB.

b) For animals, the recipient shall adhere to:
   i. Requirements for animal acquisition, transport, care, handling, and use in 9 CFR Parts 1-4, Department of Agriculture rules implementing the Laboratory Animal Welfare Act of 1966 (7 U.S.C. 2131-2156) and 9 CFR Subchapter A, Parts 1 through 4).
   ii. Rules of the Departments of Interior (50 CFR Parts 10-24) and Commerce (50 CFR Parts 217-227) implementing laws and conventions on the taking, possession, transport, purchase, sale, export, or import of wildlife and plants, including the: Endangered Species Act of 1973 (16 U.S.C. 1531-1543); Marine Mammal Protection Act (16 U.S.C. 1361-1384); Lacey Act (18 U.S.C. 42); and Convention on International Trade in Endangered Species of Wild Fauna and Flora.

iii. DTRA local clause 252.235-9001–Prohibition of Use of Laboratory Animals (Jul 2010). The full text of this clause is as follows: The grant recipient shall obtain approval from the US Army Medical Research and Material Command (MRMC), Animal Care and Use Review Office (ACURO) prior to conducting research on live nonhuman vertebrates. Studies involving non-human primates, dogs, cats, or marine mammals will require a site visit by an ACURO laboratory animal veterinarian as a condition of approval. DoD may also conduct site visits involving research on other animals when deemed appropriate. The animal research facility is responsible for notifying the DoD sponsor if Association for the Assessment and Accreditation of Laboratory Animal Care accreditation is lost or the facility is under USDA inspection. DoD also has the right to a site inspection under these circumstances.

The grant recipient (including subcontractors) is expressly forbidden to use laboratory animals in any manner whatsoever without the express written approval of MRMC ACURO. The grant recipient shall complete the ACURO Animal Use Appendix for Research Involving Animals found at the following web site: https://mrmc-www.army.mil/index.cfm?pageid=Research_Protections.acuro_AnimalAppendix. Submit the completed ACURO appendix, contact information, the DTRA grant number and a copy of the grant for processing to the email address listed at the ACURO website. Once ACURO approves the effort, the grant recipient will receive written approval to begin animal use from the US Army MRMC ACURO by separate email. The grant recipient shall promptly provide a copy of the approval to the Grants Officer and Grants Officer representative. After approval, changes or protocol amendments must be submitted to and approved by ACURO before implementation. The grant recipient, or subcontractors as appropriate, shall submit the most recent U.S. Department of Agriculture Animal Care Inspection Report annually in accordance with the CDRL. Non-compliance with any provision of this clause may result in the termination of the grant.

5. Representations and Assurances. By accepting funds under this Grant, the recipient assures that it will comply with applicable provisions of the following national policies:
   a) Environmental Standards. By signing this agreement or accepting this agreement or accepting funds under this agreement, the recipient assures that it will identify to the awarding agency any impact this award may have on the quality of the human environment, and provide help the agency may need to comply with the National Environmental Policy Act (NEPA, at 42 U.S.C. 4321, et. seq.) and to prepare Environmental Impact Statements or other required environmental documentation. In such cases, the recipient agrees to take no action that will have an adverse environmental impact (e.g., physical disturbance of a site such as breaking of ground) until the agency provides written notification of compliance with the environmental impact analysis process.
   b) Drug-Free Workplace. The recipient agrees to comply with the requirements regarding drug-free workplace requirements in Subpart B (or Subpart C, if the recipient is an individual) of 32 CFR Part 26, which implements Sections 5151-5160 of the Drug-Free Workplace Act of 1988 (Pub. L. 100-690, Title V, Subtitle D; 41 U.S.C. 701, et seq.).
   c) Officials Not to Benefit. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this agreement, or to any benefit arising from it, in accordance with 41 U.S.C. 22.
   d) Preference for U.S. Flag Carriers. Travel supported by U.S. Government funds under this agreement shall use U.S.-flag air carriers (air carriers holding certificates under 49 U.S.C. 41102) for international air transportation of people and property to the extent that such service is available, in accordance with the International Air Transportation Fair Competitive Practices Act of 1974 (49 U.S.C. 40118) and the interpretative guidelines issued by the Comptroller General of the United States in the March 31, 1981, amendment to Comptroller General Decision B138942.
   e) Cargo Preference. The recipient agrees that it will comply with the Cargo Preference Act of 1954 (46 U.S.C.1241), as implemented by Department of Transportation regulations at 46 CFR 381.7, which require that at least 50 percent of equipment, materials or commodities procured or otherwise obtained with U.S. Government fund under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned U.S.-flag commercial vessels, if available.
   f) Military Recruiters. Military recruiting on campus under this award shall be as specified in the DoDGARs §22.520, Military Recruiting and Reserve Officer Training Corps Program Access to Institutions of Higher Education. As a condition for receipt of funds available to the Department of Defense (DoD) under this award, the recipient agrees that it is not an institution of higher education (as defined in 32 CFR Part 216) that has a policy or practice that either prohibits, or in effect prevents:
      i. The Secretary of a Military Department from maintaining, establishing, or operating a unit of the Senior Reserve Officers Training Corps (in accordance with 10 U.S.C. 654 and other applicable Federal laws) at that institution (or any sub element of that institution);
      ii. Any student at that institution (or any sub element of that institution) from enrolling in a unit of the Senior ROTC at another institution of higher education;
      iii. The Secretary of a Military Department or Secretary of Homeland Security from gaining access to campuses, or access to students (who are 17 years of age or older) on campuses, for purposes of military recruiting in a manner that is at least equal in quality and scope to the access to campuses and to students that is provided to any other employer; or

iv. Access by military recruiters for purposes of military recruiting to the names of students (who are 17 years of age or older and enrolled at that institution or any sub element of that institution), their addresses, telephone listings, dates and places of birth, levels of education, academic majors, and degrees received, and the most recent educational institutions in which they were enrolled. If the recipient is determined, using the procedures in 32 CFR Part 216, to be such an institution of higher education during the period of performance of this agreement, the Government will cease all payments of DoD funds under this agreement and all other DoD grants and cooperate agreements to the recipient, and it may suspend or terminate such grants and agreements unilaterally for material failure to comply with the terms and conditions of award.

6. Publications and Acknowledgement of Sponsorship. Publication of results of the research project in an appropriate professional journal is encouraged as an important method of recording and reporting scientific information. A courtesy copy of each accepted publication shall be uploaded directly in to the web-based reporting system previously described herein. The recipient agrees that in the release of information relating to the grant, such release shall include the following statement:

"The project or effort depicted was or is sponsored by the Department of the Defense, Defense Threat Reduction Agency. The content of the information does not necessarily reflect the position or the policy of the federal government, and no official endorsement should be inferred."

For purposes of this provision, information includes news releases, articles, manuscripts, brochures, advertisements, still and motion pictures, speeches, trade association proceedings, symposia, etc.

When issuing statements, press releases, requests for proposals, bid solicitations, and other documents describing projects or programs funded in whole or in part with federal money, all recipients receiving federal funds, shall clearly state: (i) the percentage of total costs of the program or project which will be financed with federal money, and (ii) the dollar amount of federal funds for the project or program.

Proposal

Vector-borne diseases, such as leishmaniasis, malaria, filariasis, onchocerciasis, dengue and arbopod borne viruses, are transmitted by hematophagous insects have become an increasing challenge for human and veterinary public health throughout the world. The World Health Organization (WHO) is focused on identification, surveillance and eradication/control of these pathogens in an effort to support public health. One of the most important vector-borne diseases in Europe (the Eastern Mediterranean Region) of importance to the WHO includes leishmaniasis , a parasite transmitted by infected female sand flies.

One form of leishmaniasis of concern is zoonotic Visceral Leishmaniasis (VL). It is widely distributed in countries of the former Soviet Union with human cases registered in Middle Asia and the Caucasus, including the Republic of Georgia. Historically, leishmaniasis in Georgia has been sporadic and confined mainly to the eastern part of the country. Current active foci are located in Tbilisi, the capital of Georgia, and in the region Shida Kartli. Since 1990, the number of VL cases recorded annually has increased substantially, from 10-12 cases in the early 90's, to 171 cases in 2008. Out of 1535 patients registered in Georgia during 1995–2008, 917 (60%) were from Tbilisi, with 17 fatal cases (official statistical records, National Center for Disease Control (NCDC), Tbilisi, Georgia). Sixty percent of these cases occurred within the capital city of Tbilisi, a modern city of 1.2 million inhabitants.

Despite the transmission rates appearing low, however if the transmission cycle is very focal (as is probably the case in Tbilisi) where there is urban transmission with a close fly/dog/human relationship this may not be the case. It is known from previous research in the area that the reservoir and sand flies are feeding on and resting in close proximity to dogs resulting in the increase in collection of infected specimens. Additionally, towards the end of the peak abundance when the sand fly population is old and not diluted by numerous newly emerged flies, the likelihood of finding infected flies increases significantly.

We want to focus on the ways of eradication of the disease with using modern methods. A main goal of this proposed proposal for eradication and control is to develop laboratory colonies of sand fly species incriminated as vectors of VL transmission in Georgia. Phlebotomus kandelakii and Ph. balcanicus have been incriminated in the transmission of VL in recent field surveys to initiate laboratory colonies. This will provide laboratory-bred, uninfected sand flies for experimental studies. One problem encountered is the positive identification of specimens. Until now, biological specimens were identified using morphological features like the shape, size and color of body parts. In some cases only a trained technician could make routine identifications using morphological "keys" (step-by-step instructions of what to look for), but in most cases an experienced professional taxonomist is needed. If a specimen is damaged or is in an immature stage of development, even specialists may be unable to make identifications.

Species identification using DNA barcodes (i.e., genetic sequences) is one way to identify specimens with confidence. DNA barcoding first came to the attention of the scientific community in 2003 when Paul Hebert's research group at the University of Guelph published a paper titled "Biological identifications through DNA barcodes". In it, they proposed a new system of species identification and discovery using a short section of DNA from a standardized region of the genome.

The gene region that is being used for almost all animal groups, a 648 base-pair region in the mitochondrial cytochrome c oxidase 1 gene ("CO1"), is proving highly effective in identifying birds, butterflies, fish, flies and many other animal groups. The advantage of using COI is that it is short enough to be sequenced quickly and cheaply yet long enough to identify variations among species. Barcoding solves these problems because even non-specialists can obtain barcodes from tiny amounts of tissue. This is not to say that traditional taxonomy has become less important. Rather, DNA barcoding can serve a dual purpose as a new tool in the taxonomists toolbox supplementing their knowledge as well as being an innovative device for non-experts who need to make a quick identification.

The Walter Reed Army Institute of Research-Georgia Laboratory (WRAIR-G) has indicated an interest in support for a sand fly barcoding program. The proposed work is in line with the mission the WRAIR- Georgia in making use of the Genomics Lab at the Central Public Health Reference Laboratory (CPHRL) and would eventually lead to other groups being barcoded as well, including other medically important groups such as mosquitoes and ticks. Barcoding is something that the WRAIR has taken great interest in and our efforts here have resulted in 90% of the worldwide *Anopheles* species being barcoded. What that means to public health efforts is it provides the basis of any technology that can do in situ sequencing being the reference sequence for the machine to use for identification. It has a lot of potential and applicability and is something that could benefit Georgia as well.

After raising our awareness about barcoding of sand flies in Georgia/Caucasus region this method will be developed and expended. It will be possible to distinguish morphologically the same species. It will provide a broader resource to expand into work on other vectors (mosquitoes, ticks, etc.). The new method can be used by other colleges and will share my experience with others. It will be possible to learn more about not only about transmitted disease as well as more about the ecology of the vectors.

2013 Early Career Scholars Program (ECSP-2013)
FORM A: COVER SHEET

GENERAL PROJECT INFORMATION

Total Amount Requested from CRDF Global/SRNSF	General Scientific Are	Dates of Proposed Visit
$30,000 ($30,000 maximum)	CPHRL (Central Public Health Reference Laboratory)	April 14 2014 – December 15 2014

INFORMATION ON THE GEORGIAN APPLICANT

Full Name (Last, First, Patronymic)	Mariam Zakalashvili		
Position/Title	Specialist, Laboratory Division of National Center for Disease Control & Public Health (NCDC&PH).		
Institution Name and Complete Mailing Address	Richard Lugar G. Central for Public Health Reference Laboratory (CPHRL) 16 Kakheti Highway Tbilisi 0109 Georgia. www cphr ge		
Name of Institution Director	Amiran Gamkrelidze	Institution Director E-mail	a.gamkrelidze@ncdc.ge
Applicant Date of Birth (Month/Day/Year)	July 26 1964	Citizenship and Passport Number	Georgian,10AB39351
Sex (Male or Female)	Female	Highest Degree Earned	MSc in Biology, Faculty of Biology, TSU
Field of Degree	MSc in Biology in molecular field	Year Awarded	1987-1992 Ivane Javakhishvili Tbilisi State University (TSU),Tbilisi, Georgia. 2012 – Ph D student at Faculty of Exact and Natural Sciences, Tbilisi State University (TSU)
Telephone #	+995 599 981453	Fax #	+995(32) 2 31 14 85
E-Mail	zakalasgvili@yahoo com		

Have you received a grant under a previous CRDF, SRNSF, GRDF, or DTRA program?		NO
If "Yes," please list program and grant number		
Have you traveled abroad before?		NO
If "YES," provide dates and a brief description of the reason for your previous visit		

INFORMATION ON THE INTERNATIONAL HOST

Full Name (Last, First, Middle)	Long, Lewis Scotty		
Position/Title	MAJ (Chief, Walter Reed Biosystematics Unit)		
Institution Name and Complete Mailing Address	WRAIR 503 Robert Grant Avenue Silver Spring, MD 20910		
Citizenship/residence status	USA	Sex (Male or Female)	Male
Highest Degree Earned and year awarded	Ph.D. 2004 (Univ of Florida)	Field of Degree	Entomology
Telephone #	240-479-8275	E-Mail	Lewis s long@us.army.mil
Web Page Address	www wrbu org		
HAVE YOU RECEIVED A GRANT FROM CRDF GLOBAL OR DTRA?			NO
If "Yes," please indicate program and grant number			
Name of Institutional Representative[1]		E-Mail for Institutional Rep	
Does the host's Institution have the authority to issue the necessary documents required for the Georgian applicant to obtain a visa if required?			NO

SIGNATURES

By signing this application, I certify that I meet all the eligibility requirements in this announcement and that I will honor all conditions of the program

Applicant		Date	20 Oct 13
Applicant's Institution Director		Date	

[1] Must be an individual who can authorize support for visiting foreign researchers at the host institution

FORM B: PROJECT BUDGET

Applicants should refer to Section VI, in order to complete Budget Form B

Individual Financial Support (full-time)			Requested
Full Name: Mariam Zakaiashvili	Monthly Rate	Number of Months	-------
	$2500 00	12 Months	$30 000
TOTAL INDIVIDUAL FINANCIAL SUPPORT			
Equipment and Materials			-------
1. Patrol for the field trip			$ 500.00
TOTAL MATERIALS AND SERVICES			$ 500.00
Travel			
Domestic Transportation			$1 200
Domestic Per Diem			$ 6.000
International Transportation			$ 2.450
International Living Allowance/Per Diem			$ 18.000
Other Travel Expenses: (visa fees conference registration fees, etc.)			$ 180.00
TOTAL TRAVEL			$ 27.830
Other			$ 1 670
Total Request			$ 30.000

Budget Narrative

International Transportation:
Tbilisi (TBS) To Washington (WAS) . By Lufthansa, Tbilisi-Munich –Washington, one way-$1225
Washington - Munich-Tbilisi- one way-$1225
Round trip subtotal: $ 2450

Ground Transportation (From airport to the Hotel and from Hotel to Airport) -$300
Ground Transportation from rent House to Smithsonian institute and from Smithsonian institute to House everyday -$ 900 00
TOTAL (USD) $1 200

Domestic Per Diem, (monthly budget $690.00 including Health Insurance, Limit of indemnity, Worldwide Policy Type-single, $500 00)
TOTAL (USD) $6 000

International Living Allowance/Per Diem,(Place to rent House ,USA fee one month, $ 1 400 and for Dining one month $6 808, monthly budget to rent for eight(8) months - $ 11 200
TOTAL (USD) $ 18.000

Visa fees. Visitor J-1 -$180

Other
$ 1 670 needed for to hire entomologist, who will be employed according to the season.

Description of project objectives

The current literature has revealed an increasing threat of emergence, re-emergence and a wider geographical distribution of vector-borne infectious diseases caused by arthropods. Among the main factors responsible are environmental, socio-economic, demographic and public health policy changes, shift from preventive measures to emergency response, insecticide or drug resistance and genetic changes in pathogens. Hence, vector-borne diseases, such as leishmaniasis, malaria, filariasis, onchocerciasis, dengue and other arboviruses, and a number of other diseases transmitted by hematophagous insects become an increasing challenge for human and veterinary public health throughout the world.

DNA barcoding first came to the attention of the scientific community in 2003 when Paul Hebert's research group at the University of Guelph published a paper titled "Biological identifications through DNA barcodes" This is new invention and interesting method which can be used by Georgians as well In it, they proposed a new system of species identification and discovery using a short section of DNA from a standardized region of the genome.

The gene region that is being used for almost all animal groups, a 648 base-pair region in the mitochondrial cytochrome c oxidase 1 gene ("CO1"), is proving highly effective in identifying birds, butterflies, fish, flies and many other animal groups The advantage of using COI is that it is short enough to be sequenced quickly and cheaply yet long enough to identify variations among species.

The goal of the work will be raising our awareness about barcoding of sand flies in Georgia/Caucasus region this method will be developed and expended It will be possible to distinguish morphologically the same species It will provide a broader resource to expand into work on other vectors (mosquitoes, ticks, etc.). The new method can be used by other colleges and will share my experience with others It will be possible to learn more generally about species mosquitoes, ticks and etc
It has a lot of potential and applicability and is something that could benefit Georgia as well.

We are listing following steps,

1 Sand flies will be collected towards the end of the sand fly season.
2. DNA Extraction;
3 Analyzed DNA by PCR;
4 Sequencing of DNA;
5 Identifying variations among species by using barcoding

Detailed Project Information

Incriminate suspected vectors by finding parasites in captured sand fly specimens. This will be carried out towards the end of the sand fly season when the infection rate is highest in the population. Following the identification of species, sand flies will be sorted then grouped in pools of fifty. Some species have only one seasonal peak but others may have 2 peaks and therefore, two times where transmission can potentially peak

Determine the species prevalent in active foci of VL in Tbilisi: Traps (mainly sticky paper traps, light traps and aspirators) will be placed in peridomestic and sylvatic niches considered suitable resting sites for sand flies These include inhabited houses, sheds of domestic animals and poultry, tree holes in the surrounding forest, burrows and caves of wild animals Traps will be placed at dusk and collected at dawn This will be done once every two weeks over a period of 2 consecutive days for the duration of the sand fly season The captured sand flies will be identified using a collection of taxonomic keys The collection site and feeding status (blood fed or not) of each fly will be registered

All this work, given above will take place in Georgia...but rest of it will take place in the host institute, DNA will be extracted by PCR using species specific primers will be performed on these pools for incrimination of the vector/s, including sequencing and barcoding

Task 1

1 Sand flies will be collected towards the end of the sand fly season.

Task 2

1 DNA Extraction,
2 Analyzed DNA by PCR;
3 Sequencing of DNA.
4 Identifying variations among species by using barcoding

TASK 1

Task description and main milestones	Implementing Institutions
1.Sand flies will be collected towards the end of the sand fly season 2 Sorting send flies based on morphological features	1.Field Work 2 Richard Lugar G Central for Public Health Reference Lab (CPHRL)

Description of deliverables	
1	Report
2	

TASK 2

Task description and main milestones	Host Institutions
1 DNA Extraction, 2. Analyzed DNA by PCR; 3 Sequencing of DNA; 4 Identifying variations among species by using barcoding	WRAIR (Walter Reed Army Institute of Research), Walter Reed Biosystematics Unit

Description of deliverables	
1	Report
2	

1-6 months	8 months (Travel)
1 Sand flies will be collected towards the end of the sand fly season 2.Sorting send flies based on morphological features	1. DNA Extraction, 2. Analyzed DNA by PCR; 3. Sequencing of DNA; 4. Identifying variations among species by using barcoding

Materials and Methods:

Incriminate suspected vectors by finding parasites in captured sand fly specimens. This will be carried out towards the end of the sand fly season when the infection rate is highest in the population. Following the identification of species, sand flies will be sorted then grouped in pools of fifty. Some species have only one seasonal peak but others may have 2 peaks and therefore, two times where transmission can potentially peak.

Determine the species prevalent in active in Tbilisi Traps (mainly sticky paper traps, light traps and aspirators) will be placed in per domestic and sylvatic niches considered suitable resting sites for sand flies These include inhabited houses, sheds of domestic animals and poultry, tree holes in the surrounding forest, burrows and caves of wild animals Traps will be placed at dusk and collected at dawn. This will be done once every two weeks over a period of 2 consecutive days for the duration of the sand fly season. The captured sand flies will be identified using a collection of taxonomic keys The collection site and feeding status (blood fed or not) of each fly will be registered

Dissection of individual flies from chosen trip collections will also be carried out to get an accurate estimate of the infection rate in these flies
Extraction of DNA by using these materials
1 Lysis Solution and Washing Solution should be warmed up to 60–65°C until disappearance of ice crystals
Prepare 70% Ethanol
2 1.5 ml polypropylene tubes including one tube for Negative Control of Extraction and two tubes for Positive Controls of Extraction .
3. Lysis Solution
4 Internal Controls
5 Washing Solution
6 Ethanol al 70%
7 Acetone
8 DEPC-H20
9. Amplification by PCR with specific Primers

With specific Genotyping System for sequencing Involving in Type-specific Primers

Also, the results will be analyzed by barcoding method.

Used Literature:

1. Giorgobiani, E. (2012). Incrimination do phlebotomus Kandelakii and Phlebotomus balcanicus as vectors of Leishmania infantum in Tbilisi, Georgia

2. Giorgobiani, E. (2011). N. Chitadze & N. Chitadze (Eds.), Epidemiologic Aspects of an Emerging focus of Visceral Leishmaniasis in Tbilisi, Georgia

3. Mitchel, M. (2010). What is DNA Barcoding? Print How DNA Barcoding Works and What it Will Do? Retrieved from http://ibol.org/about-us/what-is-dna-barcoding/

4. (2011). Retrieved from http://barcoding.si.edu/dnabarcoding.htm

5. Giorgobiani, E. (2012). Investigation of Vector

6. Alex Smith, M. (2011). D. Monty Wood & J. Daniel H. Janzen (Eds.), *DNA barcodes affirm that 16 species of apparently generalist tropical parasitoid flies (Diptera, Tachinidae) are not all generalists*

DEPARTMENT OF THE ARMY
WALTER REED ARMY INSTITUTE OF RESEARCH
503 ROBERT GRANT AVENUE
SILVER SPRING, MD 20910-7500

MCMR-UWF-B

19 September 2013

MEMORANDUM THRU Dr. Eka Giorgobiani , Ms. Marika Zakalashi, National Center for Disease Control and Public Health (NCDC&PH)

FOR Directors and Funding Managers, Early Career Scholars Program, CRDF Global, the Shota Rustaveli National Science Foundation (SRNSF), and the Georgian Research and Development Foundation (GRDF)

SUBJECT: Letter of support for Ms. Zakalashi in the Early Careers Scholars Program by the Entomology Section, the Walter Reed Army Institute of Research-Georgia Laboratory and the Walter Reed Biosystematics Unit (WRBU), Smithsonian Institute- Museum Support Center, Suitland MD.

1. This letter indicates the desire of the Walter Reed Biosystematics Unit (WRBU), Entomology Branch of the Walter Reed Army Institute of Research (WRAIR) to support and host Ms. Marika Zakalashi in the Early Careers Scholars Program for the timeframe of the program.

2. Having worked with Ms. Zakalashi in both the field and laboratory settings, I can attest to her abilities and work ethic and cannot think of anyone better to represent your program and work as a representative for the future of Georgian science. Ms Zakalashi will benefit from the guidance and training from one of the preeminent figures in the field of genetic barcoding for arthropod vectors (Dr. Yvonne Linton) in addition to the facilities of both WRBU and the WRAIR-Georgia laboratory.

3. This collaboration is one that benefits the all involved and presents a unique opportunity for our respective institutions to work together on the taxonomy of sand flies, a group of medically important insects and known vector of many pathogens of public health concern. The expertise and facilities of WRBU and the WRAIR offers a unique opportunity to build capacity in the future of Georgia science.

4. Upon her selection for extramural funding from supporting organizations to study and work stateside, the respective institutes can provide in kind support in the form of suitable bench space and equipment, computer support, and access to relevant specimens in the United States Natural History Museum National Sand Fly Collection and assistance from our staff.

5. Point of contract is the undersigned (lewis.s.long@us.army.mil) at 301-319-7384.

Lewis S. Long, Ph.D.
Chief, Walter Reed Biosystematics Unit
WRAIR

Dr. Ekaterina Giorgobiani-Burgess
9 M. Asatiani Street, Tbilisi 0177, Georgia
National Center for Disease Control and Public Health
+995 577 402 234

Subject: Recommendation Letter

To: CRDF Global, the Shota Rustaveli National Science Foundation (SRNSF), the Georgian Research and Development Foundation (GRDF)

Date: 19.09.13

I am writing this letter to highly recommend Mariam Zakalashvili for the Early Career Scholars Program. She has been working as a researcher under my management in the FP7-HEALTH-2010-single-stage EDENext project "Biology and control of vector-borne infections in Europe" funded by the European Commission. Since the beginning of our professional relationship I know her as an energetic and goal-oriented person with excellent research skills.

Her fundamental knowledge in biology as well as excellent analytical and practical application skills are results of the continuous study of the current literature and up-to-date research methods and approaches. She has been a great asset to international programs and projects and was able to work very effectively with different researchers from variety of European and US Institutes. She has participated in several international conferences and meetings.

Mariam Zakalashvili is fluent in Russian and English. In addition, I want to note her quiet, benevolent nature and correct character that makes her an indispensable team-worker.

Mariam Zakalashvili has my strongest recommendation.

Sincerely yours,

To Whom It May Concern,

I am pleased to inform you that Ms. Mariam Zakalashvili, specialist at the laboratory division of the National Center for Disease Control and Public Health of Georgia (NCDC) has been invited by Lewis S. Long, Ph.D., Chief, Walter Reed Biosystematics Unit, WRAIR to participate in the training and collaboration research of the preeminent figures in the field of genetic barcoding for arthropod vectors.

At Walter Reed Biosystematics unit (WRBU), Entomology Branch of the WRAIR Ms. Zakalashvili will study more about taxonomy of sand flies, that are of considerable public health importance because of their ability to transmit several viral, bacterial, and protozoal disease-causing organisms of humans and animals. Ms. Zakalashvili will learn DNA barcoding method; she will bring and establish this approach at the laboratory of NCDC/Lugar center. It will be possible to distinguish morphologically the same species. It will provide a broader resource to expand into work on other vectors (mosquitoes, ticks, etc.).

Please consider this as an official request to fund Ms. Zakalashvili to receive the above mentioned training and conduct collaborative research in the U.S.

Merab kekelidze
Main Specialist, Laboratory Division of National Center for Disease Control & Public Health (NCDC&PH)

Mariam Zakalashvili
Primary applicant

Applicant CV

Current Curriculum Vitae Template

Name: Mariam Zakalashvili

Date of Birth: 26.07.1964

Phone: (+995) 599 981453; (+995) 577 387018

E-mail: zakalashvili@yahoo.com

Employment history and experience

Professional Experience

1992 - Specialist, Laboratory Division of National Center for Disease Control & Public Health (NCDC&PH), Tbilisi, Georgia

1994 – 2002 Laboratory Physicians in Clinical Laboratory, Medical-Diagnostic Center "Test-Medical House"

Educational background *(current and former institutional affiliations post high school)*

2012 – Ph.D. student at Faculty of Exact and Natural Sciences, Ivane Javakhishvili Tbilisi State University (TSU)

1987-1992 MSc in Biology, Faculty of Biology, TSU

Recent publications Publications and Posters

1. *.Bakanidze, I.Velijanashvili, M.Kekelidze, L.Beridze, E.Zangaladze, M.Zakalashvili, D.Tsereteli P. Imnadze;* Polymerase Chain Reaction Assays for the Presumptive Identification of Yersinia pestis Strains in Georgia; in: Advances in Experimental Medicine and Biology, Vol. 529, The Genus Yersinia: Entering the Functional Genomic Era, Kluwer Academic/Plenum Publishers, 2003, p. 333-336.

2. *G.Chanturia, E.Zhgenti, M.Zakalashvili, M.Kekelidze, E.Garcia, V.H.I.Lao, J.Elliott, P.Chain, N.Tsertsvadze, L.Bakanidze, P.Imnadze,* Molecular typing of Francisella tularensis strains isolated in Georgia, Abstract, 6th International Conference on Tularemia, Berlin, Germany, 2009

3. *Ekaterine Zhgenti, Gvantsa Chanturia, Mariam Zakalashvili, Merab Kekelidze,* Application of Modern Techniques for Studying Bacterial Pathogens in Georgia; Advances in Surveillance, Detection and Identification of Emerging and Endemic Pathogens, NATO sponsored science conference, Tbilisi, Georgia, June 24-27, 2008

4.Molecular typing of Francisella tularensis strains isolated in the country of Georgia during 2009-2011,

G. Chanturia, N. Tsertsvadze, M. Kekelidze, M. Zakalashvili, E. Zhgenti, M. Gaprindashvili, P. Imnadze, N. Avaliani, J. Farlow, E. M. Barry

5. Tick-borne pathogen surveillance in the country of Georgia: Implications for unrecognized spotted fever group rickettsial disease in humans.

[1]John Lee, [2]Lewis Long, [1]Sarah Pisarcik, [3]Elizabeth Wallace, [4]Monica O'Guinn, [5]Nikoloz Tsertsvadze, [5]Irakli Sikharulidze, [5]Nikoloz Kiria, [5]Mariam Zakalashvili, [6]Maka Kokhreidze, [6]Marina Donduashvili, [6]Nino Vepkhvadze, [6]Nino Akhvlediani, [4]Jason Richardson, and [7]Allen Richards.

6. Multiple-Locus Variable-Number tandem repeats Analysis (MLVA)-based Genetic diversity of human and animal Brucella isolates from Georgia

E. Jgenti[1], K. Sidamonidze[1], M. Zakalashvili[1], M. Ramishvili[1], L. Malania[1], M. Grdzelidze[1], T. Akhvlediani[1], I. Kokaia[1], L. Sanodze[1], S. Tsanava[1] X. Huang[5], Onashvili[1], E. Mamisahsvili[1], M. Nikolaishvili[1], M. Zaqareishvili[1], I. Beradze[1], M. Kokhreidze[1], M. Donduashvili[1], N. Vepkhvadze[1], M. Nikolich[5], R. Rivard[5], Blackburn[7], P.Elzer[8], N. Trapaidze[1]

Conference/workshop experience

2013	Conference 32nd Annual Meeting American Society for Virology (ASV) Penn State University, State College, Pennsylvania(USA) July 20 – 24, 2013
2013	EDENext AGM meeting Biology end control vector –borne Infection in Europe 18-22 March 2013 Bellaterra Spine.
2012	Infection Disease Research Conference-"Implementation Science and Strengthening In Country Partnerships", Fogarty International Center Tbilisi, Georgia, May 28-29-2012 NYS-ITRP program.
2011	Infection Disease Research Conference-"Implementation Science and Strengthening In Country Partnerships", Fogarty International Center Tbilisi, Georgia, July 28-29-2011
2010	Fogarty NYS-ITRP program, Downstate Seminar, New-York, January 13-16, 2010
2009	Infection Disease Research Conference-"Implementation Science and Strengthening In Country Partnerships", Fogarty International Center Tbilisi, Georgia, May 27-28-2009

Policy and Standards for Plagiarism

Policy

A CRDF Global will not provide funding to an application in which plagiarism exists

B All applications for funding submitted to CRDF Global will be thoroughly screened for plagiarism against a large number of sources including published research papers, books, conference abstracts, and websites

C When plagiarism is detected, the program within CRDF Global that is overseeing the funding opportunity will determine the specific action to be taken. Action taken may include, but is not limited to a) informing the applicant that plagiarism has been discovered; b) excluding the applicant from the funding opportunity, c) informing the applicant's institution; d) informing reviewers; e) informing organizations collaborating with CRDF Global on the funding opportunity; f) barring the applicant from participation in future funding opportunities.

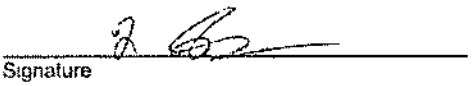
Standards

A Definition: Plagiarism is the incorporation of published writing or another person's original writing into your document without clear formatting and accurate attribution of the source. Academic writing such as a funding proposal must be original work, written by the stated applicant(s). Any text derived from another published source, or from an author not named in the proposal, must be formatted to clearly indicate that it is not original writing of the applicant(s), and the correct citation to the original source must be given. Proper formatting is either the use of quotation marks around all of the borrowed text or indentation of the borrowed text to clearly set it off from your own writing.

B. Examples of plagiarism include, but are not limited to, the following cases.

- a Using your own previously published text in the proposal without proper formatting and attribution This is a common error. Even if you wrote the text, you cannot re-use text that you have published in any publicly available form, such as in a research paper, on a website, or in a conference abstract. Even your own previously published text must be formatted and a correct citation to the source must be given.
- b Making minor alterations to previously published text and presenting it without proper formatting and citation. Simply changing some of the words within previously published text does not make it your original writing To avoid plagiarism, the writing must be your original words, sentence structure, and organization. This is another common error.
- c. Presenting the original writing of another person, even if it hasn't been previously published, as the work of the applicant(s). If someone contributes writing to your proposal, that person must be one of the listed participants (principal investigator or named team member) in the proposal. Even if another person agrees to write text for your proposal and agrees not to be named in the proposal, the use of that person's writing as if it is your own is plagiarism
- d. Copying a sentence or obviously unique phrases from another source without formatting and attribution. Stealing a little bit is still stealing. If the text is clearly recognizable as derived from a previously published source then it must be formatted with proper attribution
- e. Giving the correct attribution (citation) at the end of copied text but not formatting the text to clearly indicate that it is taken from the cited source In the sciences and engineering, it is not sufficient to simply give the citation—if the text is from another source it must be clearly formatted to show that.

I affirm that I have read and understand the above policy and standards for plagiarism, and I agree to adhere to them.



Signature

20 04 13

Date