

REQUEST FOR PROPOSALS

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Grand Challenges Canada™
Grands Défis Canada^{MC}

BOLD IDEAS FOR HUMANITY.™

Canadian Rising Stars in Global Health – Round 2

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1. Introduction

“With funding and support, Grand Challenges Canada will enable Canadian and developing-world scientists to introduce innovation and solve persistent global health problems. Grand Challenges Canada is committed to unlocking the potential of developing-world scientists – working with their Canadian counterparts to tackle health challenges and contribute to lasting solutions.”

A decade into the new millennium, Canada, a young but determined country, earned its place on the world stage. It started in the January cold of 2010 when enthusiastic Canadians ran across the country with the Olympic flag and, on the way, found a new pride in their country. At the Winter Olympics in Vancouver, a passionate nationalism grew with each passing day, as Canadians climbed the podium for a record-setting number of gold medals by a home country. And in other sectors as well, Canadians made their leadership mark this year. Our banking system weathered the financial crisis and garnered the world’s acclaim for its prudence and good management. Canada hosted the world’s leaders at the G8 and G20, which underscored our new position on the global stage. So many accomplishments and so much pride in our country!

Building on our new pride, Grand Challenges Canada is inviting Canadian scientists to bring their knowledge, their inventiveness and their unparalleled energy to the issues of global health.

1.1 GRAND CHALLENGES CANADA

In the 2008 Federal Budget, the Government of Canada announced the creation of the Development Innovation Fund to:

“support the best minds in the world as they search for breakthroughs in global health and other areas that have the potential to bring about enduring changes in the lives of millions of people in poor countries.”

“For example, new vaccines and cures could save millions of lives lost to tropical diseases. Higher-yield, drought-resistant crops could prevent future famines. And lower-emission energy sources could power industrial development and job creation with a minimal carbon footprint.”

Grand Challenges Canada, a Canadian not-for-profit organization, is the vehicle to deliver the Development Innovation Fund, in a consortium with the International Development Research Centre (a Canadian Crown corporation) and the Canadian Institutes of Health Research (a Government of Canada agency). Grand Challenges Canada is hosted by the McLaughlin-Rotman Centre for Global Health (University Health Network and University of Toronto).

The **vision** of Grand Challenges Canada is to develop a consortium of world-leading Canadian and international scientists, research organizations, and leaders from the

business sector, to develop breakthrough solutions to global challenges and ensure that these solutions are available to those who need them the most.

Grand Challenges Canada's **mission** is to identify global grand challenges, fund a global community of researchers and related institutions on a competitive basis to address them, and support the implementation/commercialization of the solutions that emerge.

Grand Challenges Canada's core **values** include scientific excellence, collaboration and partnership, and accountability for results.

Grand Challenges Canada is funded by Canada's international development assistance envelope. Canada is the first country to take a grand challenges approach to global health innovation through foreign aid.

The concept of **Integrated Innovation**TM plays a key role in Grand Challenges Canada's work.¹ Integrated Innovation is the coordinated application of scientific/technological, social and business innovation to develop solutions to complex challenges. This approach does not discount the singular benefits of each of these types of innovation alone, but rather highlights the powerful synergies that can be realized by aligning all three. Integrated Innovation recognizes that scientific and/or technological innovations have a greater chance of going to scale and achieving global impact if they are developed from the outset with appropriate social and business innovations.

1.2 BACKGROUND

Massive inequalities in health exist across the globe. The urgency to address these health disparities was reflected in the eight goals for development agreed upon by United Nations member states in the Millennium Declaration. Four of the Millennium Development Goals (MDGs) directly apply to health: MDG 1 is to eradicate extreme poverty and hunger, MDG 4 is to reduce childhood mortality, MDG 5 is to improve maternal health, and MDG 6 is to combat HIV/AIDS, malaria, tuberculosis and other diseases.

Yet even after a decade of focus on these goals, intolerable inequities in health between high- and low-income areas in the world persist. For example, malnutrition in children is over 10 times more prevalent in developing countries than developed countries, a newborn is over 35 times more likely to die in the first month of life in the developing world than in developed countries, a woman in a low-income region is 50 times more likely to die in pregnancy and childbirth than a woman in a high-income region, and tuberculosis is still over 100 times more prevalent in sub-Saharan Africa than it is in North America.

¹ Grand Challenges Canada/Grands Défis Canada, "Integrated Innovation", September 2010, http://www.grandchallenges.ca/wp-content/uploads/integratedinnovation_EN.pdf

Canada has the resources, the educated population, the creativity, and the science and business acumen to build upon its legacy of excellence in an integrated way to show bold leadership that can have a major impact on global health.

The tremendous skills, knowledge and innovation of Canadians mean we can boldly harness an opportunity to address these global health challenges. In an effort to promote the burgeoning leadership role Canada has in global health, we have developed this “*Canadian Rising Stars in Global Health*” program to support the best and brightest of our young Canadian talent who will use scientific/technical, social and business innovation to address these most pressing global health problems.

1.3 PROGRAM GOAL AND KEY OBJECTIVES

We are aiming to attract and capture early career innovators in global health. This program recognizes the difficulties of early career innovators in securing research funding generally, and particularly in global health.

The goal of this Request for Proposals is to support the development of exceptional emerging Canadian innovators in global health who have the potential to be world leaders in global health.

2. Approach

2.1 PROGRAM SCOPE

We seek **proposals for innovative solutions** that could be easily implemented in developing countries to improve global health. We seek **ideas that are bold and creative**, and that have the potential to make a substantial impact on a global health problem. The proposed innovations would need to:

1. Have a strong likelihood of achieving substantial and measurable health gains in an under-resourced setting
2. Maximize delivery, uptake, acceptability, sustainability, and impact by integrating scientific/technological, social and business innovation. We call this “Integrated Innovation”. (See Integrated Innovation white paper available at http://www.grandchallenges.ca/wp-content/uploads/integratedinnovation_EN.pdf)
3. Initiate and build upon partnerships between a Canadian organization and organizations in low- and middle-income countries.

Desirable attributes include:

- Solutions appropriate for settings with limited electricity
- Technologies that require minimal maintenance and training for operation

- Approaches that can be used effectively to improve health in communities with no or basic health clinics
- Adaptations of widely-used technologies (e.g., mobile phones) to meet health needs
- Solutions that can be easily assimilated into cultural practices and existing health delivery mechanisms
- Technologies embedded within a solid business plan to drive market penetration and uptake in poor countries
- Technologies that can be translated quickly into approved products
- Extreme affordability.

We will *not* consider funding for solutions that are not applicable to a low-resource, developing world setting.

2.2 SIZE AND LENGTH OF GRANTS

Up to \$20 million CAD is available for this program. Awards are initially valued at \$100,000 CAD for up to 18 months to demonstrate proof-of-principle of the idea. Upon application and successful review at 12-18 months after the initial award is granted, scale-up grants of up to \$1 million CAD for two years may be awarded. A minimum of 30% of the scale-up budget must be spent in the low- and middle-income country.

Assuming a sufficient number of proposals of merit, up to 20 awards of \$100,000 CAD will be granted in this second round of funding. We intend to fund a total of three rounds of proof-of-principle awards. Up to 14 scale-up awards may be granted over the three rounds of competition.

3. Activities and Deliverables

The investigators funded under this effort will be expected to engage in the activities and provide the specific deliverables listed below. In addition to engaging in investigative activities related to their proposed project, applicants will be expected to:

- Where appropriate, actively participate in meeting(s) that bring together all of the principal investigators to share learning and best practices
- Commit to Grand Challenges Canada's Global Access and Ethics policies (see <http://www.grandchallenges.ca/grand-challenges/gc1-explorations/canadian-rising-stars-program-information/>)
- Participate in public engagement activities.

The deliverables listed below will help demonstrate project progress and success:

- Progress reporting, including periodic conversations via teleconference and written reports upon request

- A final report that includes a clear assessment of the potential impact of the project - instructions for reporting will be provided to successful grant recipients
- Dissemination of knowledge through publications in peer-reviewed literature, etc.
- A one-year and final report that captures and identifies social, cultural and commercialization barriers to implementation, and an initial plan for delivering the intervention at scale that addresses these barriers.

4. Rules and Guidelines

Grand Challenges Canada staff will be substantially involved in shaping this initiative over time. The Canadian Institutes of Health Research oversees the peer review process, and the Grand Challenges Canada Board of Directors makes the final funding decisions.

4.1 ELIGIBILITY CRITERIA

Applicants must:

- Be no more than 10 years from having completed a PhD, a health professional degree (MD, RN, ND, Chiropractor), LLB, LLM, MBA or MPH at the time of taking up the award; the 10 years can be counted from the completion of a Master's degree that follows a health professional degree; MDs must be no more than 10 years from having completed residency training at the time of application; all relevant degrees must be completed at the time of taking up the award
- Be affiliated with a Canadian non-profit organization, for-profit company, or other recognized institution capable of supporting the proposed activities and administering grants
- Be willing to engage the public on their project and, more generally, on global health topics
- Have a co-investigator in a low- or middle-income country (see more details below)
- Have the support of a mentor, who will provide guidance and facilitate career development.

4.1.1 CO-INVESTIGATOR REQUIREMENTS

The co-investigator must be affiliated with an institution located in a low- or middle-income country capable of supporting the proposed research activities, and be willing to engage the public on their project and broader global health topics.

Existing and new collaborations are equally encouraged, particularly those that will bring additional components of Integrated Innovation to your project (scientific/technological, social and business innovation).

4.2 APPLICATION INSTRUCTIONS

The full proposals will consist of a written proposal and a CV, in addition to a two-minute video explaining the target global health problem, the proposed solution, and why it is a creative, bold, and innovative approach. You can submit your video in either English or French, or both. The video must not exceed two minutes; **any videos that are longer than two minutes will be truncated at the two-minute mark.**

Please note the applicants are responsible for notifying their affiliated organization/institution(s) upon application to the Canadian Rising Stars in Global Health program.

4.3 REVIEW PROCESS

A review committee, overseen by the Canadian Institutes of Health Research will recommend to the Grand Challenges Canada Board of Directors up to 20 applications for funding. The Board of Directors makes the final funding decision.

4.4 APPLICATION SCHEDULE

Please see www.grandchallenges.ca for application guidelines and submission instructions. Completed proposals must be submitted by 11:59 p.m. Eastern time on September 19, 2011.

4.5 EVALUATION CRITERIA

1. Investigator Potential

Does the applicant demonstrate the potential to be a world leader in global health? Scientific contributions to date, linkages with resource-limited countries and evidence of excellence in scholastic activities will be used as metrics of career potential. Are the proposed activities appropriate to the training and experience level of the principal applicant (and, where applicable, collaborators)? Does the applicant have the support of a mentor who is capable of facilitating career development in global health research?

2. Global Health Impact

Is the proposal likely to have a significant impact on global health? Does the proposal address a concern of priority to resource-poor countries? Are the proposed activities likely to have a positive impact on the health of the proposed target population? Does the proposal clearly explain the pathway to impact, including how it will save lives or reduce disability?

3. Integrated Innovation

Does the proposed solution integrate scientific/technological, social and business innovation? Is the approach truly novel and a departure from incremental or evolutionary improvements over current approaches?

4. Technical Merit/Execution Plan

Is the proposed concept and approach based on sound scientific analysis and technical rigour? Are the proposed milestones appropriate, feasible and technically sound? Are feasible milestones set out for the 18-month timeline of this grant? Does the approach represent an efficient use of resources? Does the environment in which the work will be performed contribute to the probability of success? Does the approach take advantage of unique features of the scientific environments, including partnerships with industry?

5. Collaboration

Does the proposed project include the collaboration of an investigator from a low- or middle-income country? Is the value added by the inclusion of co-investigator(s) in the project clearly justified?

6. Public Engagement

Is the applicant able to present their approach to the public in an engaging manner? The outcome of public online ratings of applicant videos is an indicator. Does the applicant state their willingness to engage the public on global health issues and their research in an ongoing and creative manner?

7. Boldness and Creativity

Is the proposed idea innovative and bold? Is it out of the box? Does it have the potential to leap-frog conventional approaches? Can the innovation and delivery mechanisms be easily implemented in developing countries to improve global health? Is the proposal creative enough to have the potential to tackle the problem from a different angle to make a substantial impact on a global health problem?

4.6 ALLOWABLE COSTS

Grant funds may be used for the following cost categories: personnel (salary support is an allowable cost), necessary travel, supplies, contracted services, sub-grants, consultants and equipment (partial or full support for equipment may be requested). Please provide budget estimates according to the categories above.

Please note, Grand Challenges Canada will provide a limited amount of indirect costs based on the nature of the applicant organization, to a maximum of 13% of direct costs of the Grantee's administered grant value. This amount will be in addition to the \$100,000 CAD of direct costs (i.e. total value of the grant will be $\$100,000 + 13\% = \$113,000$ CAD).

Also note that proposals with thoughtful and efficient use of resources will be preferred over proposals representing comparable efforts that do not have the same value for the investment. In some circumstances (e.g., rapidly changing technologies), subcontracting specific project activities to an outside institution with the infrastructure and expertise to deliver results may be considered advantageous over establishing in-house capacity.

4.7 PRIVACY NOTICE

To help us in the evaluation and analysis of projects, all proposals, documents, communications and associated materials submitted to the Grand Challenges Canada (collectively, “Submission Materials”) will become the property of Grand Challenges Canada and will be shared with other members of the Grand Challenges Canada consortium (the International Development Research Centre and Canadian Institutes of Health Research). We will report publicly on the number of letters of intent received and the countries from which they originated.

The proposals will be subject to confidential external review by independent subject matter experts and potential co-funders, in addition to analysis by our staff. Please carefully consider the information included in the Submission Materials. If you have any doubts about the wisdom of disclosure of confidential or proprietary information, we recommend you consult with your legal counsel and take any steps you deem necessary to protect your intellectual property. You may wish to consider whether such information is critical for evaluating the submission, and whether more general, non-confidential information may be adequate as an alternative for these purposes.

We respect confidential information we receive. Nonetheless, notwithstanding your characterization of any information as being confidential, we may publicly disclose all information contained in Submission Materials to the extent as may be required by law and as is necessary for potential co-funders and external reviewers, such as government entities, to evaluate them and the manner and scope of potential funding consistent with appropriate regulations and their internal guidelines and policies.

4.8 WARRANTY

By providing any Submission Materials, the sender warrants Grand Challenges Canada that they have the right to provide the information submitted. Applicants with questions concerning the contents of their Submission Materials may contact Grand Challenges Canada at: canadianrisingstars@grandchallenges.ca.

4.9 INTELLECTUAL PROPERTY

The output of this program may lead to innovative technologies, services and/or products to promote human capital formation in developing countries, and the successful development of these products may require involvement and support of the private sector, and may also involve collaborations with multiple organizations, including academic and/or non-profit research institutions. It is the intent of this program to support the formation of appropriate public-private partnerships that are essential to meet these urgent global health needs. Intellectual property rights and the management of intellectual property rights are likely to play an important role in achieving the goals of this program. Grand Challenges Canada’s Global Access Strategy will guide our approach to intellectual property, and we urge all applicants, even at the letter of intent stage, to consider their willingness to submit a full proposal in compliance with the Grand

Challenges Canada Global Access Strategy, the guiding principles of which are as follows:

1. Breakthrough solutions to global challenges are made accessible to those in need, particularly in the developing world. Accessibility relates to both price and availability.
2. Knowledge gained through discovery is broadly, and as promptly as possible, distributed between related projects and to the global scientific community.
3. Commercialization of resulting outputs is encouraged, as long as the first two principles are achieved.

Grantees will be required to develop and sign a Global Access Agreement with Grand Challenges Canada in line with the guiding principles. For further information, please refer to Grand Challenges Canada's intellectual property policy at <http://www.grandchallenges.ca/grand-challenges/gc1-explorations/canadian-rising-stars-program-information/>.

5. Research Assurances

It is the policy of Grand Challenges Canada that research involving human subjects, research with animals, and research subject to additional regulatory requirements must be conducted in accordance with the highest internationally recognized ethical standards. In order to receive funds from Grand Challenges Canada, initially and throughout the course of a research project, researchers must affirm and document compliance with the guiding ethical principles and standards outlined below.

1. Research involving human participants must be conducted in a manner that demonstrates, protects and preserves respect for persons, concern for the welfare of individuals, families and communities, and justice.²
2. Research involving animals must be conducted in a manner that ensures their humane care and treatment.
3. Certain research endeavours, including but not limited to research with recombinant DNA, biohazards and genetically modified organisms, may be subject to enhanced regulation and oversight.

While not necessary for the letter of intent, and as applicable to the individual project, Grand Challenges Canada will require that for each venue in which any part of the project is conducted (either by your organization or a subgrantee or subcontractor), all legal and regulatory approvals for the activities being conducted will be obtained in

² Modified from the core principles articulated in the draft second edition of TCPS, (<http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/chapter1-chapitre1/#toc01-1b>)



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advance of commencing the regulated activity. We will further require you to agree that no funds will be expended to enrol human subjects until the necessary regulatory and ethical bodies' approvals are obtained. For further details, please see the Grand Challenges Canada Ethics policy at <http://www.grandchallenges.ca/grand-challenges/gc1-explorations/canadian-rising-stars-program-information/>.

Questions about the Canadian Rising Stars in Global Health program or the application process should be addressed to canadianrisingstars@grandchallenges.ca