



Grand Challenges Canada™  
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## News Release

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Local project contact information spreadsheet: <http://bit.ly/1iZweSK>

### ***Imaginative: 83 Bold Innovations to Improve Global Health Receive Grand Challenges Canada Funding***

***Among novel ideas to reduce disease, save lives in developing world:  
Diagnostic diapers to detect deadly rotavirus; Rolling water barrel;  
Special yogurt offsets pesticides, heavy metals, toxins in food;  
Inventive shoe, boot material releases bug repellent when walking***

***50 innovators from low- and middle-income countries, plus  
33 from Canada, share \$9.3 million in seed grants***

Grand Challenges Canada, funded by the Government of Canada, today extends seed grants of \$100,000 each to 83 inventive new ideas for addressing health problems in resource-poor countries.

The Grand Challenges Canada “Stars in Global Health” program seeks breakthrough and affordable innovations that could transform the way disease is treated in the developing world -- innovations that may benefit the health of developed world citizens as well.

Of the 83 grants announced today, 50 are given to innovators in 15 low- and middle-income nations worldwide and 33 to Canadian-originated projects, to be implemented in a total of 30 countries throughout the developing world.


“Innovation powers development leading to better health and more jobs. I feel proud that Canada, through Grand Challenges Canada, has supported almost 300 bold ideas to date in our Stars in Global Health program,” says Dr. Peter A. Singer, Chief Executive Officer of Grand Challenges Canada. “This is one of the largest pipelines of innovations in global health in the world today.”

Says the Honourable Christian Paradis, Canadian Minister of International Development and Minister for La Francophonie: “Grand Challenges Canada’s portfolio of projects shows how innovators with bold ideas have the potential to make a big impact on global health. By connecting game-changing ideas with some of the most pressing global health challenges, these projects will lead to sustainable and affordable health solutions in low- and middle-income countries.”



The portfolio of 83 creative, out-of-the-box ideas, selected through independent peer review from 451 applications, includes projects submitted by social entrepreneurs, private sector companies and non-government organizations as well as university researchers. Among them:

### Diagnosics

- **Diagnostic diapers, to detect and signal often deadly rotavirus** (Project implementation: India). *Rotavirus is the most common cause of severe diarrhea that annually kills 500,000 children under age five and hospitalizes millions more. India's Achira Labs is creating a fabric-based chip that, when integrated into disposable diapers, will help detect and signal the infectious virus quickly and safely.*  
**Grant # 0404-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)
- 
- **A simple, portable, dry, yeast-based blood screening test** (Belize, Jamaica). *WHO estimates almost half of 46 million blood donations in low-income countries are inadequately tested; in Africa up to 10% of new HIV infections are caused by transfusions. A University of Toronto-developed yeast-based blood screening tool will detect combinations of diseases. Like baking yeast, it can be stored dry, and can be grown locally with minimal equipment and training, improving accessibility in rural areas.*  
**Grant # 0389-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)
  - **A bedside, Litmus paper-like test to detect bronchitis** (Brazil, India). *Being pioneered at McMaster University with international collaborators, a simple sputum test will detect infectious and allergic bronchitis in adults and children, reducing mis-diagnosis in developing countries and saving resources: time, steroids, antibiotics.*  
**Grant # 0374-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)
  - **A cell phone app to detect breast cancer** (Canada, China, Ireland, Nigeria, Portugal, South Africa). *Millions of women in rural areas and low-income countries do not have access to diagnostic imaging or breast screening programs. Using quantum physics, solid-state microwave detectors and cell phone technology, this project, led by the University of Manitoba, aims to create a portable, effective system to move breast cancer detection from clinic to home.*  
**Grant # 0385-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)
  - **Using light to detect urinary tract / bladder problems** (Canada, Uganda, Ethiopia). *An estimated 2% of deaths in Uganda and widespread chronic illnesses are attributed to urinary tract / bladder problems. Early diagnosis will save resources now devoted to investigate, treat to save organ function, and reduce hypertension. A prototype device at the University British Columbia uses light to measure hemoglobin and oxygen levels through the skin as the bladder empties, revealing significant problems in real time.*  
**Grant # 0382-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)



### Water, sanitation, hygiene and general health

- **Special yogurts formulated to offset the harm to health caused by heavy metals, pesticides and other toxics in food** (Africa). *Between 2006-2009 in Nairobi, only 17% of the total maize sampled and 5% of feed was fit for human and animal consumption respectively. University of Western Ontario researchers have developed novel yogurts containing a bacteria that, in the stomach, sequesters certain toxins and heavy metals and degrades some pesticides.*  
**Grant # 0397-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)
- **Cost-effective cloth menstrual sanitary pads in Africa** (Uganda). *Every year since 2010, Uganda's AFRIPads company has doubled production of low-cost, washable cloth menstrual kits designed for up to one year's use, increasing rural access to affordable feminine hygiene (15% of the cost of disposable pads), eliminating reliance on makeshift materials, thereby improving women's health and chances for education and work. Some 120,000+ kits have been distributed so far, mostly by NGOs. The project will improve supply chains, distribution and awareness-raising.*  
**Grant # 0447-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)
- **Addressing arsenic-laced groundwater**. *In Bangladesh, 1 in 5 deaths (600,000 per year) occur due to groundwater arsenic, dubbed by WHO as the largest mass poisoning in history, with some 77 million people at risk. Project 1) Toronto-based PurifAid will deploy new filtration units via franchised villagers who will filter and deliver purified water, perform maintenance, acquire new filters and dispose of old ones, which can be used to produce biofuels. Project 2) A project based at the University of Calgary, meanwhile, will work to increase the use of Western Canadian lentils in Bangladeshi diets. The crop is rich in selenium, which can decrease arsenic levels and improve health. (See also projects 0377-01 and 0433-01)*  
**Grant # 0375-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)  
**Grant # 0387-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)
- **"WaterWheel"** (India, Kenya, Mongolia). *This simple, innovative device from India is a wheeled water container that enables the collection and transport of 3 to 5 times as much water as usual per trip, as well as hygienic storage, saving valuable time for productive activities and improving health.*  
**Grant # 0410-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

### Malaria

- **A vaccine based on a newly-discovered antibody in men that prevents malaria infection in the placenta** (Benin, Colombia). *Colombian men exposed to malaria are found to have antibodies that can prevent infection in the placenta of a pregnant woman. This University of Alberta finding forms the basis for developing a novel vaccine against several forms of malaria, which cause 10,000 maternal deaths and 200,000 stillbirths annually.*  
**Grant # 0381-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)





- **Insect-repellent clothing, footwear and wall plaster** (East Africa). 1) In Tanzania, the Africa Technical Research Institute will lead the design and manufacture of attractive, affordable insecticide-treated clothing while 2) the Ifakara Health Institute will develop anti-mosquito footwear material that slowly releases repellents from the friction of walking. A key advantage: no compliance or change in habits required. 3) Uganda's Med Biotech Laboratories, meanwhile, will produce a colorful, insecticide-infused 'plaster' for the outside walls of African village homes.

Grant # 0438-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

Grant # 0442-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

Grant # 0448-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

### Maternal and child health

- **Medical appointment reminders and health tips delivered via voice message to new and expectant mothers who speak Quechua -- a South American language with no written component** (Peru).

Project leaders at the Universidad Peruana Cayetano Heredia say the 29 million mobile phones in Peru

roughly matches the population yet the use of information and communication technologies in health work with rural women who speak Quechua is

unprecedented. An estimated 22% of Peruvians speak Quechua.

Grant # 0434-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)



- **Mothers Telling Mothers: improving maternal health through storytelling** (Uganda). Work by Twezimbe Development Association has found that stories told by mothers in their own words and reflecting shared realities are most likely to increase the number of moms seeking skilled health care, and convince policymakers to improve healthcare access. This project will capture 3 to 5 minutes stories to be shared through digital media platforms and health clinics.

Grant # 0451-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

- **A novel, integrated resuscitation solution** (India, Africa). A 2012 UN study showed 25% of birth facilities had access to infant resuscitation equipment; 11% had attendants capable of using it. India's Windmill Health Technologies has created a novel integrated resuscitation solution, reduces air leakage, creates more consistent air pressure and volume, lessening injuries and improving survival.

Grant # 0411-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

### Mobile technology

- **Digital African Health Library** (Sub-Saharan Africa). The University of Calgary-led project is creating an app to support bedside care by medical doctors in Africa: a smartphone-accessible resource providing evidence-based, locally-relevant decision support and health information. A pilot involving 65 doctors in Rwanda showed point of care answers to patient questions more than tripled to 43%, with self-reported improvement in patient outcomes.

Grant # 0384-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)



## Health care

- **Simple sticker helps track clean surfaces in healthcare facilities (Philippines).** *WHO estimates that 10% to 30% of all patients in developing country health care facilities acquire an infection. An innovative sticker for hospital surfaces developed by Lunanos Inc. changes colour when a cleaner is applied and fades color after a predetermined period of time, helping staff track and ensure cleanliness of equipment and other frequently touched surfaces.*  
**Grant # 0393-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**
- **“Mystery clients” to assess and improve quality of TB care (India).** *India accounts for 25% of global tuberculosis (TB) incidence. To evaluate variations in practice quality, and identify ways to improve TB management in India, this project, led by Canada's McGill University, will send researchers into clinics posing as a patient with standard TB symptoms. The project builds on earlier work related to angina, asthma and dysentery, which revealed incorrect diagnoses and treatment.*  
**Grant # 0373-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

And many more.

All the projects and a complete set of short project descriptions, with links to additional details, available photos / video, and local contact information can be found in the full press release: <http://bit.ly/HOLt5b>

The global portfolio of grants, broken down by region and country:

30 projects based in 6 African countries (16 in Kenya, 5 in Tanzania, 5 in Uganda, 2 in Nigeria and 1 each in Senegal and Ghana)

17 projects based in 7 countries in Asia (7 in India, 2 in Pakistan 4 in Thailand and 1 each in Bangladesh, Cambodia, Mongolia and the Philippines)

Two projects based in South America (Peru) and one in Europe (Armenia)

33 projects based in 11 Canadian cities (14 in Toronto, 3 each in Calgary, Montreal and Vancouver, 2 each in Winnipeg, Edmonton and London, and 1 each in Halifax, Hamilton, Ottawa and Saskatoon)

The Canadian-based projects will be implemented worldwide (a majority of them implemented simultaneously in more than one country):

15 countries in Africa (5 in Kenya, 4 in Tanzania, 3 each in Uganda and Ethiopia, 2 each in Rwanda, Somalia, South Africa, South Sudan, and Zambia, and 1 each in Benin, Botswana, Ghana, Malawi, Nigeria, and DR Congo)

8 countries in Asia (8 in India, 6 in Bangladesh, 1 each in Bhutan, China, Nepal, Pakistan, Philippines and Thailand)



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5 countries in South and Latin America (Belize, Brazil, Colombia, Jamaica, Peru.) and  
1 in the Middle East (Egypt)

Including today's grants, total investments to date under the Grand Challenges Canada "Stars in Global Health" program is \$32 million in 295 projects.

\* \* \* \* \*

*Appendix*  
*Grand Challenges Canada*  
**Stars in Global Health - November 2013**  
**Complete listing of grants, by country:**

**CANADA**

**Halifax, NS**

0369-01

Dalhousie University

(Implementation countries: Egypt, Ghana)

Prof. Christian Lehmann

**The Microcirculation Screening (MicroScreen) Project: Innovative Non-Invasive Point-of-Care Monitoring of Nutritional Status and Critical Health Conditions in Low-Resource Environments**

The medical tool to be developed within the MicroScreen Project will help to improve the quality of life of the people, especially of mothers and young children and the therapy of critical ill patients in low-resource environments.

**Grant # 0369-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

**Montreal, QB**

0373-01

McGill University

(Implementation country: India)

Dr Madhukar Pai

**Mystery clients to assess and improve quality of TB care in India**

India needs a strategy for measuring and improving quality of TB care. We will use "mystery clients" posing as TB patients to evaluate quality. This method could uncover variations in practice quality, and identify solutions to curb TB mismanagement.

**Grant # 0373-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**



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0376-01

McGill University

(Implementation countries: India)

Dr. Nitika Pant Pai

**Empower ASHAs to provide mobile, multiplex, pregnancy screening**

We will empower frontline healthcare workers (ASHAs) to better care for pregnant women in rural areas. Armed with smartphones and rapid tests, ASHAs will screen for HIV, co-infections and anemia, offer updated health info and link women to treatment.

**Grant # 0376-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0378-01

Sensoreal Inc.

(Implementation countries: Canada, India)

Mr. Roozbeh Safavieh

**Low Cost Microchip for Early Diagnosis of Elephantiasis**

Our bold idea is to make a low-cost, highly sensitive, easy-to-use diagnostic tool for the detection of lymphatic filariasis. Its early stage detection reduces the morbidity rate and prevent permanent damage to internal organs caused by the disease

**Grant # 0378-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

**Ottawa, ON**

0379-01

TechnoDevelop Corporation

(Implementation countries: Bhutan, Canada, India, Sri Lanka)

Dr. Prakash Naidu

**Development of Low Cost Diagnostic and Monitoring Method For Diabetes Prevention**

As per WHO, 346 million people have diabetes; 80% deaths occur in low-middle income countries. Currently, physicians cannot easily detect Insulin Resistance (IR), which precedes clinical signs of diabetes undetected for decades. TechnoDevelop will research towards low-cost IR diagnostics targeting advance monitoring and prevention programs along with education and training.

**Grant # 0379-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

**London, ON**

0397-01

University of Western Ontario, London ON

(Implementation countries: Congo, the Democratic Republic of the, Kenya, Malawi, Rwanda, Somalia, South Sudan, Tanzania, Uganda, Zambia)

Dr. Gregor Reid

**Using locally sourced probiotic food to reduce levels of potent environmental toxins.**



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We have developed novel yogurts containing *Lactobacilli* bacteria to sequester aflatoxins and heavy metals and degrade some pesticides. When these bacteria are added to locally produced foods, they can reduce morbidity associated with these toxins.

**Grant # 0397-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0370-01

NeoVentures Biotechnology Inc.

(Implementation countries: Tanzania)

Dr. Jacek Chrostowski

**Wireless-based biosensor network to detect mycotoxins in maize harvesting, storage and transportation**

Farmers will be able to monitor in real time the incidence of mycotoxins in crops at harvest, storage and transport time. Our technology combining new low cost biosensors, RFID tags, smart phones will enable improvement of health of the population.

**Grant # 0370-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

**Hamilton, ON**

0374-01

McMaster University

(Implementation countries: Brazil, India)

Dr. Parameswaran Nair

**A point-of-care paper-based biosensor to detect and treat bronchitis**

A simple point of care paper-based diagnostic test in sputum will detect infective and allergic bronchitis in adults and children. This will help guide judicious use of currently available medications (steroids and antibiotics) to treat these disease

**Grant # 0374-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

**Toronto, ON**

0388-01

University of Toronto

(Implementation countries: Canada, India)

Dr. Radhakrishnan Mahadevan

**Low cost TB drugs created using synthetic biology (India)**

An estimated 9 million people are infected with multi drug-resistant TB; 1.4 million die per year. Successful completion of this University of Toronto-led project will lead to an innovative yeast-based bioprocess for the low-cost synthesis of antibiotic and lower the cost (now \$5,000 per patient) of treating the disease in the developing world.

**Grant # 0388-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)





0372-01

University of Toronto

(Implementation countries: Kenya, Zambia)

Dr. Stephanie Nixon

**Free new online resources for the rehabilitation of HIV-related disability patients in Sub-Saharan Africa (SSA).** In SSA, HIV treatment is now widespread and mortality has dropped 32% since 2005. HIV-related disability is growing in tandem and rehabilitation training is needed. The University of Toronto International Centre for Disability and Rehabilitation will create an online resource to address this need in SSA, adapted from Canadian practices.

**Grant # 0372-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0389-01

University of Toronto

(Implementation countries: Belize, Canada, Jamaica)

Prof. G. Andrew Woolley

**A simple yeast-based blood screening assay**

We will create a ready-to-use, yeast-based blood screening tool, for simultaneously detecting combinations of diseases. Like baking yeast it can be stored dry, and grown locally with minimal equipment/training, improving accessibility in rural areas.

**Grant # 0389-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0390-01

University of Toronto

(Implementation country: Tanzania)

Dr. Shana Kelley

**Lab Free, Low Cost Malaria Testing**

We will develop a low cost disposable test for rapidly diagnosing malaria in low resource settings. This test will be based on direct molecular detection of malaria RNA in unprocessed blood to determine which malaria strains are present in <20 min.

**Grant # 0390-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0391-01

University of Toronto

(Implementation country: Thailand)

Prof. Edmond Young

**Simple liquid microculture assay for diagnosing multidrug-resistant tuberculosis**

Current methods of detecting TB remain inadequate for low-resource settings. Our idea is to develop new technology for detecting TB via direct liquid microculture that is cheap, easy to use, and able to assess resistance to many drugs at once.

**Grant # 0391-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**



0392-01

University of Toronto

(Implementation country: Bangladesh)

Prof. Timothy Chan

**AERO: Ambulance Emergency Response Optimization system for developing countries**

We will reduce ambulance response times by developing a software system leveraging existing infrastructure that optimizes ambulance pre-positioning locations, and provides real-time travel time estimation and route optimization info to drivers.

**Grant # 0392-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0394-01

University of Toronto

(Implementation countries: Peru)

Prof. Javad Mostaghimi

**Development of Antibacterial Copper Coatings for Reducing Healthcare-Associated Infections**

Copper and its alloys are known to efficiently kill bacteria. The idea is to deposit a well-adhered thin layer of copper-based coatings on frequently touched surfaces of two intensive care units and compare them to a standard ICU over a long period.

**Grant # 0394-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0395-01

University of Toronto

(Implementation country: Kenya)

Dr. Barry Rosen

**Taking a LEEP! Implementing a “See and LEEP” strategy for women in Western Kenya with positive cervical cancer screening**

We propose a “See and LEEP” strategy in rural Kenya to provide a point-of-need service for women with a positive cancer screen. LEEP is highly effective at treating pre-malignant disease, has low morbidity and can be used in a low-resource setting.

**Grant # 0395-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0396-01

University Health Network

(Implementation country: Ethiopia)

Dr. Megan Landes

**Building Emergency Capacity: The Toronto Addis Ababa Academic Collaboration in Emergency Medicine**

Ethiopia understands the urgency of training and retaining doctors. TAAAC-EM engages the world’s best teachers to inspire a generation of health providers to remain at home to serve their country without sacrificing their careers.

**Grant # 0396-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**



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0380-01

University Health Network

(Implementation countries: Bangladesh, India, Nepal, Pakistan)

Dr. Isaac Bogoch

**An innovative, electricity-free diagnostic platform for Typhoid and other common infections in resource-limited settings**

We have developed an innovative approach to diagnose typhoid and other common infections in settings without electricity, sophisticated equipment or trained laboratory personnel, to enable quality patient care in resource-limited settings.

**Grant # 0380-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0377-01

Ryerson University

(Implementation country: Bangladesh)

Dr. Scott Tsai

**Ultra low cost, simply operated, lab-on-a-chip detection of arsenic contamination in Bangladesh's well waters**

One of the key challenges for Bangladeshis in remote locations is the frequent monitoring of wells. (Some rural wells still have not been tested.) We are developing a cheap and portable lab-on-a-chip technique that will allow frequent tests of wells.

**Grant # 0377-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0375-01

PurifAid Water International Inc.

(Implementation country: Bangladesh)

Dr. Alyssa Rellstab

**PurifAid: Ending the Arsenic Water Crisis in Bangladesh**

We plan to roll out a new generation of filtration units which run on an organic by-product of the beverage industry. The units address many of the failings of existing devices (they require no power or chemicals and are very low maintenance).

**Grant # 0375-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0393-01

Lunanos Inc.

(Implementation country: Philippines)

Prof. Anil Kishen

**Simple Cleaning Indicator to Increase Sanitation in Healthcare Facilities**

This bold idea reduces the risks of infections in healthcare facilities through the development and deployment of a simple colour-changing sticker that helps staff track and ensure cleanliness of equipment and other frequently touched surfaces.

**Grant # 0393-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**



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0371-01

MJMG Holdings Inc.

(Implementation country: India)

Dr. Michael Ling

### **A Rapid and Early HIV RNA Test**

We will develop a portable, fast device that detects HIV RNA, and thus earliest detection possible (9 days). As it can be made at \$1 per test, the test can be widely implemented in developing countries. No rapid test can currently detect any RNA.

**Grant # 0371-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

## **Winnipeg, MB**

0385-01

University of Manitoba

(Implementation countries: Canada, China, Ireland, Nigeria, Portugal, South Africa)

Prof. Stephen Pistorius

### **A portable breast cancer detection device using solid-state microwave detectors.**

Imagine a cell phone app that can detect cancer! We are not quite there but we are using quantum physics and cell phone technology to create a portable and effective system to enable breast cancer detection to be moved from the clinic into the home.

**Grant # 0385-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0386-01

University of Manitoba

(Implementation country: Kenya)

Dr. Julie Lajoie

### **Inducing resistance to HIV infection**

Some rare individuals are resistant to HIV infection; their immune system have a phenotype called immune quiescence. We propose to induce immune quiescence in highly susceptible women by using low cost anti-inflammatory drugs to reduce HIV incidence by 30%.

**Grant # 0386-01 - [Project details](#) - [Video](#) | [Photo](#) | [Contact Details](#)**

## **Saskatoon, SK**

0398-01

University of Saskatchewan

(Implementation countries: Canada, India)

Prof. Jo-Anne Dillon

### **A Rapid Test for Simultaneous Identification and Detection of Antimicrobial Resistance at Point of Care for Bacterial Infections: Neisseria gonorrhoeae as a Prototype**



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Often, antimicrobial resistance (AMR) in Ng is unknown as diagnostic costs are too high. Our test will permit a simple, noninvasive diagnosis of gonorrhoea and its antibiotic susceptibility allowing unique individualized testing and treatment.

**Grant # 0398-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

## Calgary, AB

0384-01

University of Calgary

(Implementation countries: Botswana, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Uganda)

Dr. Bruce Dahlman

### **Digital African Health Library**

The Digital African Health Library is an integrated, smartphone-based, point-of-care decision support resource that provides evidence-based, locally relevant decision support and health information which is shown to lead to more informed patient care

**Grant # 0384-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0387-01

University of Calgary

(Implementation countries: Bangladesh, Canada)

Prof. Judit Smits

### **Mitigating arsenic-related health problems in Bangladesh by introducing high-selenium lentils into the everyday diet**

Lentils from Saskatchewan, naturally rich in the arsenic-antagonist, selenium, will be incorporated in the Bangladeshi diet providing a holistic solution to measurably decrease arsenic levels and improve health of arsenic exposed populations.

**Grant # 0387-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0419-01

University of Calgary

(Implementation countries: Canada, Uganda, United States)

Dr. Karl Riabowol

### **Alpaca Antibodies for HIV Neutralization**

We will make neutralizing antibodies against antigenic regions of HIV recently identified in rare cases of "natural resistance". A key will be to produce antibodies in alpacas because of their properties of simplicity, specificity, size & stability.

**Grant # 0419-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)



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## Edmonton, AB

0381-01

University of Alberta

(Implementation countries: Benin, Canada, Colombia)

Dr. Sedami Gnidehou

### **A 'sympathetic pregnancy' vaccine: how antibodies from men can protect pregnant women from malaria**

We discovered that men exposed to malaria have antibodies that can prevent infection in the placenta. This unexpected finding forms the basis of a novel approach to a vaccine that protects pregnant women exposed to multiple species of malaria

**Grant # 0381-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0405-01

Innovative Canadians for Change Foundation

(Implementation countries: Canada, Kenya)

Dr. Abdullah Saleh

### **Innovative Trauma Care in Kenya**

Our bold idea is to strengthen trauma care in Kenya by creating a national trauma system. We are developing strategic "trauma hubs" and ambulance services using existing infrastructure to decentralize trauma care and improve access and outcomes.

**Grant # 0405-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

## Vancouver, BC

0382-01

University of British Columbia

(Implementation countries: Canada, Uganda, Ethiopia)

Prof. Andrew Macnab

### **Evaluation of novel optical technology to screen for bladder problems impacting health outcomes in Uganda**

Novel disruptive optical technology now identifies when the bladder is significantly diseased or compromised. A prototype for Uganda will be evaluated that offers the potential for earlier diagnosis/treatment and better use of existing care resources

**Grant # 0382-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0418-01

University of British Columbia

(Implementation country: Bangladesh)

Dr Stephen Beerman



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### **Reducing a newly recognized leading cause of child mortality through prevention of drowning**

Reduction of child drowning in a Bangladesh community by introduction of low cost, effective, culturally sensitive, community selected interventions for children age 1-4 and 5-14 yrs old, then scale this up to a broader region of at-risk children.

**Grant # 0418-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0383-01

University of British Columbia

(Implementation countries: Canada, South Africa, Tanzania, United States)

Dr. Eiman Zargarán

### **The electronic Trauma Health Record (eTHR): Advancing Trauma Care and Injury Surveillance in Low to Middle Income Countries**

The electronic Trauma Health Record (eTHR) is an application designed for tablet devices. Coupled with powerful educational media and validated clinical practice guidelines, eTHR allows for injury surveillance while simultaneously improving outcomes.

**Grant # 0383-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

## **AFRICA**

### **Kenya**

0424-01

Kenya Medical Research Institute (KEMRI), Kenya

(Implementation country: Kenya)

Dr. Evelyn Gitau

### **Multiple biomarkers for diagnosis of infectious diseases. A solution to undiagnosed infection in Severe Acute Malnutrition in Children**

We aim to develop a diagnostic tool using molecular approaches, that can quickly and accurately identify children with SAM, who are susceptible to an increased risk of death from infection after apparent stabilization during treatment for SAM.

**Grant # 0424-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0415-01

Africa Mental Health Foundation, Kenya

(Implementation country: Kenya)

Ms Christine Musyimi

### **Dialogue to empower, supervise, support and include informal traditional and faith healers to deliver evidence-based mhGAP-IG adapted psychosocial interventions to reduce treatment gap in Kenya**



To break the barriers between the formal and the informal sectors through dialogue and training to increase synergy and communication between the two systems by minimizing any harmful practices and enhancing complementary practices.

**Grant # 0415-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0425-01

Kenya Medical Research Institute (KEMRI), Kenya  
(Implementation countries: Kenya, Nigeria)

Ms. Eva Aluvaala

**Simultaneous qualitative and quantitative detection of plasmodium falciparum Lactate Dehydrogenase in saliva of malaria patients for monitoring disease prognosis using paper microfluidics**

To develop a diagnostic assay that will simultaneously detect and quantify p.falciparum in patients. It will be non-invasive, easily adaptable, hence improve patient compliance and management, leading to reduced mortality from unreliable lab results.

**Grant # 0425-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0417-01

Botanical Extracts EPZ Limited, Kenya  
(Implementation countries: Germany, Kenya, Tanzania, Uganda)

Mr. Jack Njiru

**Botanical Extracts EPZ Ltd. Improvement of Artemisinin Yields from Existing Operations Through the Introduction of a Novel Process Step**

Considerable efforts are being made to stabilize the production of natural Artemisinin. Although progress is being made, there are still significant concerns about availability and high costs.

Two additional initiatives are being developed to bring further stability to the ACT supply chain:

1.1 Semi-synthetic Artemisinin produced from microbially sourced Artemisinic acid, a precursor to Artemisinin. This initiative was originally funded by the Gates Foundation.

Commercialization has been taken up by Sanofi under the guidance of the WHO. Although progress is being made and commercial quantities of Artemisinin are expected to be available in late 2013, there is still some uncertainty about timing for increasing production, eventual volume and affordability.

2.2 The recovery of Additional Artemisinin from existing Natural Artemisinin production activities by recovery of Di-hydro Artemisinic acid (DHAA) from existing process streams and converting this to Artemisinin by a novel photosynthetic process developed by the Max Planck Institute (MPI). It is commonly known as the Max Planck Artemisinin Initiative (MPAI). It is significantly simpler, cheaper and more cost effective than the semi-synthetic process. Utilising currently available plant genetic material; limited additional process equipment and the use of the MPAI technology inserted into the existing processing facilities (in modular form) an increase of up to 40% in Artemisinin recovery is expected. Some relatively minor changes to the Artemisia planting material is expected to double this increase. The technology is being





commercialized through a subsidiary of MPI. BE through one of its European shareholders is in the advanced stages of concluding a cooperation agreement with MPI.

The proposed project to be funded by the Seed Grant is the preliminary step in introducing the MPAI technology on a commercial scale to BE's existing production facility.

This step is expected to take approximately six months and is expected to result in:

- Proof of concept within a commercial framework to increase Artemisinin yields by up to 40%.
- Confirmation of design and costing so that commercial implementation can follow. (The latter is expected to take approximately 6-8 months).
- In addition, the grant is expected to result in further improvements to the plant material over a 12 month period. Once the new technology is installed and running, it is expected to increase the recovery of Artemisinin from 40% to potentially 80%.

**Grant # 0417-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0421-01

OGRA Foundation, Kenya

(Implementation countries: Kenya, Tanzania, Uganda)

Mr. Winstone Odhiambo

### **Cost effective technology**

#### **to address micronutrient deficiencies in Africa at the local level.**

Using a device/technology that enables small scale millers to fortify staple flours with iron and vitamin A at the local milling level, we'll improve the micro-nutrient health of over **500 million** children/women in Africa who can't access to fortified foods.

**Grant # 0421-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0429-01

Takataka Solutions Limited, Kenya

(Implementation country: Kenya)

Mr. Daniel Paffenholz

### **TakaTaka Solutions: 'Waste to bio-charcoal: Addressing health challenges in urban Kenyan households**

TakaTaka Solutions collects waste from lower income households and turns the organic waste into high quality bio-charcoal. This leads both to a waste-free environment as well as providing households with an emission free energy source for cooking.

**Grant # 0429-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0428-01

GVEP International, Kenya

(Implementation countries: Kenya, Somalia, South Sudan, Tanzania, Uganda)

Mr. Keneth Mitambo



**Multi-tasking biomass cook stove as a sustainable energy alternative for urban informal settlements and rural areas in Kenya**

This is a cook stove that utilises biodegradable biomass and performs two tasks simultaneously: cook the contents in the pot while heating water in an inner boiling chamber

**Grant # 0428-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0412-01

Access Afya Kenya Limited, Kenya

(Implementation country: Kenya)

Ms. Melissa Menke

**Access Afya: Redefining Holistic Care in Urban Slums**

Access Afya is creating a chain of ultra-mini-clinics that provide standardized outpatient services targeting the extreme poor. This model lowers barriers to good health by bringing care directly to the doorstep of the people who need it the most.

**Grant # 0412-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0420-01

Zoe Alexander Ltd., Kenya

(Implementation countries: Kenya)

Dr. Pratap Kumar

**health-E-net - creating health equity through second opinions**

We provide remote medical second opinions by linking volunteer specialists, many from the African diaspora, to patients in Kenya. Fees charged to affluent, urban patients allow consultations to be provided for free or at-cost to rural & poor patients

**Grant # 0420-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0423-01

International Centre of Insect Physiology and Ecology, Kenya

(Implementation country: Kenya)

Dr. Christopher Mutungi

**Hermetic storage for controlling post-harvest losses and aflatoxin poisoning**

Our innovation is the PICS bag, a triple layer plastic bag that serves as an hermetic way to store grains. Sealed PICS bag deprives insect of oxygen, action that kills insects and stops mold growth decreasing food losses and aflatoxin contamination.

**Grant # 0423-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)



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0427-01

OGRA Foundation, Kenya  
(Implementation country: Kenya)  
Dr. Stephen Okello

**OPERATION**

We have a monitoring app to screen and track all women of reproductive age for risk factors of maternal mortality and enroll willing mothers in a baby clothing micro-enterprise that will donate clothing to mothers who deliver in health facilities.

**Grant # 0427-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0414-01

Africa Mental Health Foundation, Kenya  
(Implementation country: Kenya)  
Ms. Christine Musyimi

**Using Mobile Phones to Empower Frontline Healthcare Workers to Manage Depression at Point of Care in Kenya Using the WHO Mental Health Treatment Gap Intervention Guidelines (mhGAP-IG)**

The bold idea is to use specially designed software mounted on mobile phones to overcome barriers of distance and travel to train, supervise and support primary health care workers to deliver mhGAP-IG at the Point of Care.

**Grant # 0414-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0426-01

Kenyatta University, Kenya  
(Implementation country: Kenya)  
Dr. Naumih Noah

**Nano-based Immunosensor for Rapid and Sensitive Diagnosis of Bilharzia in Kenya**

We plan to develop a rapid and sensitive nano-immunosensor for the detection of Bilharzia. This will be an innovative nano-kit suitable for rapid, high-throughput screening and analyzing urine samples for Bilharzia.

**Grant # 0426-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0413-01

Action Africa Help - International (AAH-I), Kenya  
(Implementation country: Kenya)  
Dr. Pamela Njuguna

**Implementation strategies for iPap, a technically innovative cervical cancer screening (CCS) sample self-collection approach that is affordable and socially acceptable**

To enable Kenyan women to apply a scenario based planning (SBP) approach with analytics to develop implementation strategies for iPap, a technically innovative CCS sample self-collection approach to meet social/financial requirements and save lives.

**Grant # 0413-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)



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0416-01

Moi University College of Health Sciences, Kenya

(Implementation country: Kenya)

Dr. Judy Gichoya

**FingerPrint Biometric System for Community Health Linkage in Western Kenya**

We propose to strengthen health systems in Western Kenya through biometric record linkage of community members, community health extension workers and health facilities to complete the patient electronic record to improve health care delivery

**Grant # 0416-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0422-01

HOPE Worldwide Kenya

(Implementation country: Kenya)

Mr. Julius Nguku

**Bold Idea for Girls (BIG) project**

My bold idea is addressing the vulnerability to HIV, harmful gender norms, access to health services and poor life-skills; and low economic capacity of girls of Mukuru Slums, Nairobi in one program that is holistic and sustainable.

**Grant # 0422-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

**Tanzania**

0442-01

Ifakara Health Institute, Tanzania

(Implementation country: Tanzania)

Dr. Prosper Chaki

**Footwear fitted with repellent-impregnated material to deter blood-seeking mosquitoes**

Mosquitoes mostly bite people on their feet and ankles.

We propose the use of footwear fitted with repellent-impregnated material, to deter blood-seeking mosquitoes from people during the times when and where existing control measures are ineffective.

**Grant # 0442-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0438-01

Dr. Johnson Odera, Tanzania

(Implementation countries: Kenya, Tanzania, Uganda)

**Multipurpose treated textiles for personal protection**

Treated fashions attract consumers while repelling vectors. Personal protection as clothing or accessories can be used indoors, outdoors, day or night, to reduce vector transmission.

Affordable designs create consistent demand for locally manufactured styles.

**Grant # 0438-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**



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0439-01

Ifakara Health Institute, Tanzania  
(Implementation country: Tanzania)

Ms. Maggy Sikulu

**Using low-cost near-infra red spectroscopy to rapidly identify potentially infectious mosquitoes and to evaluate control interventions in rural and remote settings**

Endemic countries need practical ways to evaluate malaria interventions. I will use cheap near infrared spectrometry to identify important vectors and tell if they are old enough to transmit disease, a potentially easy way to monitor vector control

**Grant # 0439-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0441-01

Ifakara Health Institute, Tanzania  
(Implementation countries: Tanzania)

Ms. Irene Moshi

**An innovative food banking scheme to prevent child malnutrition in rural communities**

Many rural households often get excess food at harvesting time but thereafter face deficits and undernutrition due to poor storage and bad planning for surplus. We will develop an innovative food banking scheme to reduce wastage and malnutrition

**Grant # 0441-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0440-01

Ifakara Health Institute, Tanzania  
(Implementation country: Tanzania)

Ms. Sheila Barasa

**Sisal fiber items produced by a community based participatory group to expand protection against malaria mosquitoes and complement efforts for malaria elimination in rural communities**

People living in rural areas are exposed to infectious mosquito bites at times when they are not using bed nets. We propose using sisal fibers treated with transfluthrin repellent to prevent mosquito bites hence confer protection indoors and outdoors.

**Grant # 0440-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

**Uganda**

0448-01

Med Biotech Laboratories (MBL) Limited, Uganda  
(Implementation country: Tanzania)

Dr. Thomas Egwang

**An innovative village-driven low tech for malaria eradication**



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Mud-huts in rural Africa are ‘smeared’ with a plaster of colored materials to give them an attractive appearance. By incorporating insecticides into ‘plaster’ materials, our idea turns this practice into a low-tech for malaria eradication.

**Grant # 0448-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0450-01

Mr. Arjen Swank, Uganda

(Implementation country: Uganda)

**Applying mobile technology for clean water and healthy lives in the developing world.**

FLOW SMS applies low-cost, ready existent mobile technology to radically improve global management of access to water for underserved communities. Empowering people to live healthy, enabling children to go to school and contributing to global wealth.

**Grant # 0450-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0449-01

Uganda Christian University, Uganda

(Implementation country: Uganda)

Dr. Eve Nakabembe

**Filling in vital gaps for vulnerable mothers/newborns to receive health care expeditiously using innovative and accessible technology coupled with social innovation**

Bridging the vital communication gap between the community and health care facilities using modern and accessible technology with information power will result in timely care for vulnerable mothers and newborns to save their lives.

**Grant # 0449-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0451-01

Twezimbe Development Foundation Limited, Uganda

(Implementation country: Uganda)

Madam Amelia Kyambadde

**Mothers Telling Mothers: A storytelling approach to improving maternal health outcomes in Uganda**

We enable pregnant women to record their experiences in receiving healthcare, and provide platforms to share their powerful stories with peers and policymakers to improve services and increase the number of pregnant women who seek medical care.

**Grant # 0451-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0447-01

AFRI-pads Ltd, Uganda

(Implementation country: Uganda)

Mr. J. Peter Findlay



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### **Cloth Sanitary Pads: Improving Menstrual Hygiene through Cost-Effective Innovation for Underserved Consumers**

AFRipads is a Ugandan company that manufactures and sells low-cost, cloth, washable menstrual kits designed for up to one year of use, thereby increasing rural access to affordable feminine hygiene solutions and improving women's menstrual health.

**Grant # 0447-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

### **Ghana**

0403-01

Waste Enterprisers Limited, Ghana

(Implementation country: Kenya)

Dr. Ashley Murray

### **GreenHeat: Fueling a Sanitation Revolution Across Sub-Saharan Africa**

We turns human waste into solid fuel and sells it to cement plants and other industries. Our approach represents urban Africa's first financially viable solution to human waste treatment, transforming a cost burden into a profitable enterprise.

**Grant # 0403-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

### **Senegal**

0437-01

Senegal Ecovillage Microfinance Fund-SEM, Senegal

(Implementation country: Senegal)

Dr. Siré Diallo

### **Addressing indoor air pollution by increasing access to clean cooking technology**

To increase access to clean cooking technology for the most vulnerable households in Senegal by designing and distributing affordable and cultural acceptable cooking equipments. This will eliminate the cost, supply-chain, and technological barriers.

**Grant # 0437-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

### **Nigeria**

0431-01

Women Friendly Initiative, Nigeria

(Implementation country: Nigeria)

Dr. Francis Awasighe

### **Building local consensus for innovative sustainable solutions to sanitation challenges in Nigerian urban slums**



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We will promote a community driven safe, sustainable sanitation technology including an innovative, hygienic, waterless toilet that does not require sewer connection. We shall build government partnership and public support for positive behavior change.

**Grant # 0431-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0430-01

University of Ibadan, Nigeria  
(Implementation country: Nigeria)

Mr. Attah Alfred

**The Miracle Tree: A Holistic Approach Towards Water Safety And Good Nutrition For Egbetua Community**

This idea integrates an expanded treatment of contaminated water using locally sourced Moringa seed, laboratory safety assessment of this treated water during pregnancy and the leaf powder from the same plant as a panacea for malnutrition in children

**Grant # 0430-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

**ASIA**

**India**

0408-01

Neurosynaptic Communications Private Limited, India  
(Implementation country: India)

Dr. Sanjay Sharma

**Impacting Rural Healthcare: Device for Lab Diagnostics at the doorsteps**

To develop a cost-effective remote diagnostic device that performs automated microscopy & colorimetry-based biochemical tests, requiring limited operating skills, making diagnostics affordable & accessible to 90% of rural patients within 3-5km reach Lower middle income

**Grant # 0408-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0409-01

Sabio Innovative Solutions Private Limited, India  
(Implementation country: India)

Mr. Udit Parekh

**A Field-usable Rapid Microbial Water Quality Test**

Sabio proposes to develop a novel, self-contained, field-usable rapid microbial water quality test. Given within 60 minutes, results which currently take 24 hours or more and empowering water providers and citizens to ensure delivery of safe water.

**Grant # 0409-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)





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0410-01

Biosense Technologies Private Limited, India  
(Implementation countries: India, Kenya, Mongolia)  
Ms. Cynthia Koenig

**wello: efficient water delivery via the WaterWheel**

By facilitating easier access to water, the WaterWheel reduces the burden of water collection saves valuable time and improves health. In the process, it enables women + children to engage in more productive activities (like school and work.)

**Grant # 0410-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0404-01

Achira Labs Private Limited, India  
(Implementation country: India)  
Dr. Dhananjaya Dendukuri

**Non-intrusive detection of rotavirus using infant diapers and a fabric strip**

We will develop a fabric based immunoassay diagnostic chip for rapid, qualitative identification and detection of rotavirus that can be integrated into disposable diapers to ease the collection and detection of virus in watery stool samples.

**Grant # 0404-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0411-01

Windmill Health Technologies Private Limited, India  
(Implementation countries: India, Nigeria, Tanzania)  
Dr. Avijit Bansal

**A novel, integrated resuscitation solution**

Easy-to-use, newborn resuscitation solution to empower front-line health workers to resuscitate newborns effectively. To reduce death & disability from Birth Asphyxia - often caused by birth attendants' inability to use current devices effectively.

**Grant # 0411-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0407-01

Micro Insurance Academy (MIA), India  
(Implementation country: India)  
Mr. Denny John

**Niramaya- The Community Pharmacy Approach for building local health ecosystem**

Improve access to medicines to rural tribal population in remote areas, use 'trained' village volunteers to explain dosage to the people, strong quality monitoring of prescription, and sales through MIS, and create a sustainable business model.

**Grant # 0407-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**



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0406-01

Dimagi Software Innovations Private Limited, India

(Implementation country: India)

Ms. Stella Luk

### **Creating Novel, Mobile Tools to Support Safer Deliveries in India**

Over the course of a year, we will reimagine, design, develop, and test a novel, mobile phone-based tool to support deliveries in India. This tool will help healthcare providers and supervisors of varying skill levels provide lifesaving delivery care.

**Grant # 0406-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

## **Pakistan**

0432-01

Aga Khan University, Pakistan

(Implementation countries: Pakistan)

Dr. Ayeesha Kamal

### **One stop for strokes – realize the possibility, in your hands.**

Fighting the stroke epidemic in developing countries by enabling risk detection and empowering knowledge for action to decrease stroke death and disability. Using the power of biomedical and mobile technologies, we propose to develop a simple, palm sized device that will empower anyone to check his /her blood pressure, sugar and cholesterol and record an ECG without blood tests anywhere in the world.

**Grant # 0432-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

0433-01

University of Agriculture, Faisalabad, Pakistan

(Implementation country: Pakistan)

Dr. Nabeel Khan Niazi

### **Arsenic Removal from Drinking Water Using Agriculture/Food-Industry Solid Wastes as Low-Cost Sorbents**

The project aims to evaluate potential of agricultural/industrial solid wastes, such as sugarcane bagasse, leechi peel, and a novel iron green-rust as economical sorbents for removal of As (a class 1 human carcinogen) from polluted drinking water.

**Grant # 0433-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

## **Bangladesh**

0400-01

International Centre for Diarrhoeal Disease Research, Bangladesh

(Implementation country: Nigeria)

Dr. S.M. Rafiqul Islam



### **Empowering "ORS Moms" and activating faith communities: Increasing household use of ORS and Zinc in Nigeria**

An innovative global model for prevention of diarrheal deaths with ORS and zinc that uses faith networks in Nigeria to identify and train a cadre of "ORS moms" to serve as vehicles for behaviour change messaging and community-based suppliers.

**Grant # 0400-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

### **Mongolia**

0452-01

Ecomed LLC, Mongolia

(Implementation countries: Mongolia, South Africa, Ukraine)

Dr. Dmytro Butov

#### **Immunotherapy of tuberculosis**

Immunoxel, multiherbal immune supplement in honey lozenge, produces sputum clearance in over 85% TB patients in one month. Our immunotherapy is affordable and when used as an adjunct to TB chemotherapy can reduce treatment duration by at least 6-fold

**Grant # 0452-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

### **Thailand**

0445-01

National Science and Technology Development Agency, Thailand

(Implementation country: Thailand)

Dr. Bunpote Siridechadilok

#### **High-throughput approach to discover new dengue vaccine**

Understanding dengue virulence is the key to design better vaccine. We will combine a novel virus-construction tool with existing high-throughput assays to effectively search for new vaccine candidates that account for relevant immune response.

**Grant # 0445-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0446-01

TB/HIV Research Foundation, Thailand

(Implementation country: Thailand)

Dr. Surakameth Mahasirimongkol

#### **Ensuring treatment adherence**

Provide a very low-cost, automated reminder/drug-dispensing machine through "missed call" signals that also allows phone calls between patients and clinics, free of charge to patients, in order to enable patients to manage their disease effectively

**Grant # 0446-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)



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0444-01

Mahidol University, Thailand  
(Implementation country: Thailand)  
Dr. Thanat Chookajorn

**An alternative strategy for fighting malaria drug resistance by causing reversal of resistance in malaria parasite population structure**

We will manipulate the evolutionary trajectories to reverse the course of drug-resistant evolution of the parasites making them drug sensitive again. This revolutionary way of fighting drug resistance will pave way to malaria eradication by drugs.

**Grant # 0444-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0443-01

Mahidol University, Thailand  
(Implementation countries: Cambodia, Congo, Laos, Nigeria, Rwanda, Tanzania)  
Dr. Yoel Lubell

**Would combined procalcitonin and malaria rapid tests optimize management of fever in the tropics?**

We propose a simple, affordable and practical approach to differentiate between malaria and bacterial diseases and guide treatment through the use of a combined rapid test based on two validated markers of bacterial and malaria infection.

**Grant # 0443-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

## **Cambodia**

0401-01

International Development Enterprises, Cambodia  
(Implementation country: Cambodia)  
Ms. Rachel Pringle

**iDE Cambodia -- Treating Waste with Lime**

iDE proposes using hydrated lime, an abundant, cheap product, to kill pathogens present in fecal sludge. Latrines are transformed into incubators for valuable agricultural additives, empowering rural Cambodians to take charge of their sanitation.

**Grant # 0401-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

## **Philippines**

0436-01

University of the Philippines Development Foundation, Inc., Philippines  
(Implementation country: Philippines)  
Dr. Harvy Joy Liwanag

**The ctrl.para.site Project: A Medical Teleparasitology System for the Philippines**



ctrl.para.site is a teleparasitology system linking peripheral labs to experts via a microscope-online-mobile phone interface, with an expected multiplier effect of improving access to diagnosis and treatment, capacity building, and new information.

**Grant # 0436-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

## LATIN AMERICA

### Peru

0434-01

Universidad Peruana Cayetano Heredia, Peru

(Implementation country: Peru)

Mr. Jose Perez-Lu

#### **WawaRed Rural: Better health in maternal care in Rural Areas**

Quechua is the language spoken in the rural Andes region and does not have a written component. Therefore, voice messages in Quechua will be sent to mothers with reminders for medical appointments, general pregnancy health tips and nutritional tips.

**Grant # 0434-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

0435-01

Universidad Peruana Cayetano Heredia, Peru

(Implementation country: Peru)

Prof. Mirko Zimic

#### **Implementation of a telediagnosics system for remote diagnostics of tuberculosis (TB) and multi-drug-resistant TB in Peru**

To validate a telediagnosics system to detect TB and MDR to be utilized in laboratories lacking financial and technical resources, in the settings where most TB occurs. We will enable automatic remote diagnosis using Internet and cellphone telephony

**Grant # 0435-01** - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)

## EUROPE

### Armenia

0399-01

American University of Armenia Fund, Armenia

(Implementation country: Armenia)

Dr. Varduhi Petrosyan

#### **Innovative Approach in TB Care in Armenia**



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Self-administered drug intake by TB patients, supervised by a trained family member and supported by medical counseling and reminders from the research team will improve treatment adherence and success rates, and stop TB and MDR-TB epidemics.

**Grant # 0399-01 - [Project Details](#) | [Video](#) | [Photo](#) | [Contact Details](#)**

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### **About Grand Challenges Canada**

*Challenges Canada is dedicated to supporting Bold Ideas with Big Impact™ in global health. We are funded by the Government of Canada through the Development Innovation Fund announced in the 2008 Federal Budget. We fund innovators in low- and middle-income countries and Canada. Grand Challenges Canada works with the International Development Research Centre (IDRC), the Canadian Institutes of Health Research (CIHR), and other global health foundations and organizations to find sustainable, long-term solutions through Integrated Innovation® – bold ideas that integrate science, technology, social and business innovation. Grand Challenges Canada is hosted at the Sandra Rotman Centre.*

[www.grandchallenges.ca](http://www.grandchallenges.ca)

### **About Canada's International Development Research Centre**

*The International Development Research Centre (IDRC) supports research in developing countries to promote growth and development. IDRC also encourages sharing this knowledge with policymakers, other researchers and communities around the world. The result is innovative, lasting local solutions that aim to bring choice and change to those who need it most. As the Government of Canada's lead on the Development Innovation Fund, IDRC draws on decades of experience managing publicly funded research projects to administer the Development Innovation Fund. IDRC also ensures that developing country researchers and concerns are front and centre in this exciting new initiative.*

[www.idrc.ca](http://www.idrc.ca)

### **About Canadian Institutes of Health Research**

*The Canadian Institutes of Health Research (CIHR) is the Government of Canada's health research investment agency. CIHR's mission is to create new scientific knowledge and to enable its translation into improved health, more effective health services and products, and a strengthened Canadian health care system. Composed of 13 Institutes, CIHR provides leadership and support to more than 14,100 health researchers and trainees across Canada. CIHR will be responsible for the administration of international peer review, according to international standards of excellence. The results of CIHR-led peer reviews will guide the awarding of grants by Grand Challenges Canada from the Development Innovation Fund.*

[www.cihr-irsc.qc.ca](http://www.cihr-irsc.qc.ca)



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***About the Department of Foreign Affairs, Trade and Development Canada***

*The mandate of Foreign Affairs, Trade and Development Canada is to manage Canada's diplomatic and consular relations, to encourage the country's international trade, and to lead Canada's international development and humanitarian assistance.*

*[www.international.gc.ca/](http://www.international.gc.ca/)*

***About Sandra Rotman Centre***

*The Sandra Rotman Centre is based at University Health Network and the University of Toronto. We develop innovative global health solutions and help bring them to scale where they are most urgently needed. The Sandra Rotman Centre hosts Grand Challenges Canada.*

*[www.srcglobal.org](http://www.srcglobal.org)*