



2016 ZIKA AND FUTURE THREATS INNOVATIONS

Grants awarded to smart and scalable solutions

VECTOR CONTROL



Monash University

Scaled deployment of Wolbachia-infected mosquitoes to block disease transmission

Michigan State University

Wolbachia-infected mosquitoes to suppress population and block disease

Trustees of Indiana University

Natural yeast-based larvicide

Johns Hopkins University

Chromobacterium: an environmentally friendly biopesticide

PERSONAL/ HOUSEHOLD **PROTECTION**



Barcelona Institute for Global Health

Electric force field to repulse mosquitoes

Ifakara Research Institute Liverpool School of Tropical Medicine

Low-cost treated Sandals to prevent bites

QIMR Berghofer Medical Research Inst. Low-tech treated fabric for outdoor use

Johns Hopkins Bloomberg School of Public Health Low-cost treated wall hangings for indoor use

Human scent mimic mosquito trap

VECTOR SURVEILLANCE



Stanford University

MosquitoFreq: Crowdsourced detection of mosquito species using simple Flip Phones

University of Queensland

Near infrared spectroscopy to detect transmission

hotspots

Stanford University

VectorChip: Design and testing for pathogen identification tools in wild mosquito populations

Sao Paolo University

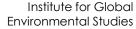
Intelligent trap to enhance Zika surveillance

Johns Hopkins University

VectorWEB: Low-cost network of cloud

connectedovitraps

COMMUNITY **ENGAGEMENT**



Mosquito Challenge Community Campaign: Kid citizen science to combat Zika



Johns Hopkins Center for Communications Programs Rapid Habit Optimization Tool (R-SHOT): Field tool for recommending optimal habits and motivational tactics





2016 ZIKA AND FUTURE THREATS INNOVATIONS, CONT'D

DISEASE SURVEILLANCE

Premise Data

Citizen-led disease risk mapping and vector monitoring

Dalberg Data Insights

Monitoring population movement to determine

areas prone to disease outbreak

Dimagi/Mt. Sinai

Big data and machine-based learning to identify data cold spots to forecast disease hotspots

International Society for Infectious Diseases

Partnership for real-time mapping of disease transmission risk from one country to another

DIAGNOSTICS



J. Craig Venter Institute

Rapid identification of peptides to speed development of Zika diagnostics

Abbott's Ibis Biosciences **Business**

Rapid, handheld point of care diagnostic for ZIKV, DENV, and CHKV

BluSense Diagnostics

Viro-Track: Rapid point of care diagnostics for ZIKV,

DENV, and CHKV using blue ray technology

SystemOne

Aspect™ IoT software and portability pack to diagnose patients in the hardest-to-reach areas

UNMANNED AERIAL VEHICLES



Vayu

Use of UAVs for delivery/pick-up of medical products and samples

Mosquito release mechanism on UAVs to

support mosquito control

WeRobotics

These innovations are in response to the

Combating Zika and Future Threats Grand Challenge

issued by USAID in April 2016 to find smart and scalable ideas that can address the current Zika outbreak and help prevent, detect, and respond to future infectious disease outbreaks.

More information at www.usaid.gov/grandchallenges/zika