## 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
- Ifakara Research Institute
- Liverpool School of Tropical Medicine
- QIMR Berghofer Medical Research Inst.
- Johns Hopkins Bloomberg School of Public Health
  - Electric force field to repulse mosquitoes
  - Low-cost treated Sandals to prevent bites
  - Low-tech treated fabric for outdoor use
  - Low-cost treated wall hangings for indoor use
  - Human scent mimic mosquito trap

### VECTOR SURVEILLANCE
- Stanford University
- University of Queensland
  - Near infrared spectroscopy to detect transmission hotspots
- Stanford University
- Sao Paolo University
- Johns Hopkins University
  - MosquitoFreq: Crowdsourced detection of mosquito species using simple Flip Phones
  - VectorChip: Design and testing for pathogen identification tools in wild mosquito populations
  - Intelligent trap to enhance Zika surveillance
  - VectorWEB: Low-cost network of cloud connected ovitraps

### COMMUNITY ENGAGEMENT
- Institute for Global Environmental Studies
- Johns Hopkins Center for Communications Programs
  - Mosquito Challenge Community Campaign: Kid citizen science to combat Zika
  - Rapid Habit Optimization Tool (R-SHOT): Field tool for recommending optimal habits and motivational tactics

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## 2016 ZIKA AND FUTURE THREATS INNOVATIONS, CONT’D

### DISEASE SURVEILLANCE

<table>
<thead>
<tr>
<th>Organization</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Premise Data</td>
<td>Citizen-led disease risk mapping and vector monitoring</td>
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<tr>
<td>Dalberg Data Insights</td>
<td>Monitoring population movement to determine areas prone to disease outbreak</td>
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<tr>
<td>Dimagi/Mt. Sinai</td>
<td>Big data and machine-based learning to identify data cold spots to forecast disease hotspots</td>
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<tr>
<td>International Society for Infectious Diseases</td>
<td>Partnership for real-time mapping of disease transmission risk from one country to another</td>
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### DIAGNOSTICS

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<tr>
<td>J. Craig Venter Institute</td>
<td>Rapid identification of peptides to speed development of Zika diagnostics</td>
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<tr>
<td>Abbott’s Ibis Biosciences Business</td>
<td>Rapid, handheld point of care diagnostic for ZIKV, DENV, and CHKV</td>
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<tr>
<td>BluSense Diagnostics</td>
<td>Viro-Track: Rapid point of care diagnostics for ZIKV, DENV, and CHKV using blue ray technology</td>
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<tr>
<td>SystemOne</td>
<td>Aspect™ IoT software and portability pack to diagnose patients in the hardest-to-reach areas</td>
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### UNMANNED AERIAL VEHICLES

<table>
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<tbody>
<tr>
<td>Vayu</td>
<td>Use of UAVs for delivery/pick-up of medical products and samples</td>
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<tr>
<td>WeRobotics</td>
<td>Mosquito release mechanism on UAVs to support mosquito control</td>
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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.