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## THE UNITED STATES PATENT AND TRADEMARK OFFICE

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### CONTACT: (Media Only)

Paul Fucito or Ryan Elliott at (571) 272-8400  
[paul.fucito@uspto.gov](mailto:paul.fucito@uspto.gov) or [ryan.elliott@uspto.gov](mailto:ryan.elliott@uspto.gov)

## USPTO Announces Patents for Humanity Winners

**Washington** – The U.S. Commerce Department’s United States Patent and Trademark Office (USPTO) today announced the latest winners of the [Patents for Humanity program](#). The Patents for Humanity program was launched by the USPTO in February 2012 as part of an Obama administration initiative promoting game-changing innovations to solve long-standing development challenges.

“We’ve seen the profound impact that good ideas—patented and marketed—can have on human beings, transcending national borders and transforming lives around the world,” said Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office Michelle K. Lee. “By showcasing the meritorious work of patent owners to address 21st century humanitarian challenges, we hope this program will continue to inspire and guide countless more innovators.”

The Patents for Humanity Award is the USPTO's top honor for applicants best representing the [Patents for Humanity principles](#). Award recipients receive public recognition at an award ceremony arranged by the USPTO. They also receive a certificate to accelerate certain matters before the Office. Honorable mentions go to applicants who were close to qualifying for top honors and may apply again in future years with further development of their technology. They receive a limited acceleration benefit.

Entries were received in five categories: medicine, nutrition, sanitation, energy and living standards. Although four of the categories did not produce honorees this year, the USPTO expects that will change in future cycles. Applications to the program were accepted through December 4, 2015.

The award ceremony is being scheduled for the fall, with arrangements forthcoming. The next round of the competition will be announced at a later date.

### Following is a list of the 2016 Patents for Humanity winners:

USPTO is giving four awards and two honorable mentions in the 2016 Patents for Humanity awards. The award winners are:



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- **U.S. Food & Drug Administration** – for developing an improved meningitis vaccine production process that’s been used to immunize 235 million people in high-risk Africa countries.
- **Case Western Reserve University** – for creating a low-cost, accurate malaria detection device using magnets and lasers that allows better diagnosis and treatment.
- **GestVision** – for developing a quick, simple diagnostic test for preeclampsia, a potentially life threatening pregnancy complication, for use in developing regions.
- **Global Good Fund at Intellectual Ventures** – for creating a passive cooler that can keep vaccines cold over 30 days and donating dozens of units to the fight against Ebola and other relief efforts.

Honorable mentions go to:

- **Sanofi** – for researching new malaria drug candidates with shorter, simpler treatment
- **Alere Inc** – for developing diagnostic assays for rapid and early HIV diagnosis at the point of care in low-resource settings

More details on each award winner below.

### U.S. Food & Drug Administration

Meningitis A is a devastating disease afflicting 26 countries in Africa’s meningitis belt across sub-Saharan Africa. Thousands of people would die or be disabled each year, such as the 1996-97 epidemic when 25,000 were killed and a quarter million afflicted. The disease primarily afflicts young adults and children, leaving many wage earners with permanent brain damage. The Meningitis Vaccine Program (MVP) was formed by the health non-profit PATH, the Gates Foundation, and the World Health Organization to combat this epidemic.

Besides regulating the safety of food and health products, the U.S. Food & Drug Administration (FDA) also conducts research on human health issues. FDA scientists set out to create a better meningitis vaccine production method for the MVP. The new technology they came up with raised the vaccine production yield from 20% to 60% and enabled the vaccine to last up to four days without refrigeration, unlike previous vaccines. FDA licensed the technology to the MVP and hosted production scientists from MVP’s Indian manufacturer to teach them how to use the vaccine production technology. As a result, more than 235 million people in Africa’s meningitis belt have been immunized with MenAfriVac® since 2010. Only four cases of meningitis A were



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reported in 2013 in the immunized region covering 16 countries. In 2015, the World Health Organization (WHO) recommended that MenAfriVac® be introduced in routine immunization schedules in sub-Saharan Africa. This will ensure that infants are protected against meningitis and will maintain population-wide immunity.

### Case Western Reserve University (CWRU)

Accurately diagnosing malaria is a difficult problem, with an estimated half of global cases undiagnosed. The standard microscope test has low sensitivity with up to 30% false positives and 20% false negatives. This causes people infected with malaria to go untreated and people without malaria to receive anti-malarial drugs, contributing to drug resistance. Engineers and doctors at Case Western Reserve University (CWRU) designed a rapid, accurate, low-cost malaria diagnostic test to address this problem. The Magneto-Optical Detection (MOD) device uses lasers and magnets to diagnose malaria in a completely new way, by detecting iron-laden byproducts of the parasite in the blood. This provides results in minutes with just a finger prick blood sample. The device can be ten times cheaper per test than the current standard and can be run by ordinary caregivers with minimal training. CWRU has conducted field trials diagnosing malaria in the Amazon, India, and Kenya. Since receiving an honorable mention in the 2014 Patents for Humanity program, CWRU has begun working with manufacturers to produce the device at scale for wider user.

### GestVision

Preeclampsia (PE) is a pregnancy complication that is the leading cause of prenatal death for mothers and babies worldwide, mostly in low and middle income countries. Although most deaths are preventable, approximately 63,000 women die from PE annually. In developed countries, PE can be diagnosed by regular doctor visits and laboratory tests, allowing treatment before severe symptoms occur. However, in developing regions without regular prenatal care, PE is often undiagnosed until serious complications such as stroke or organ failure occur. Startup company GestVision has developed a rapid, low-cost urine test for caregivers to diagnose PE in low-resource settings. The test detects misfolded proteins in urine associated with PE, shown by a colored dot similar to a pregnancy test. Gestvision's test kits are currently being used in clinical studies around the world, including Bangladesh, Mexico City, and South Africa under grants from USAID, the Gates Foundation, and others. Following initial research



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at Yale University, GestVision was created to further develop the technology. GestVision is working on a manufacturing process to produce the kits in large volume.

### Global Good Fund at Intellectual Ventures

Delivering vaccines to off-grid regions is complicated by the need to keep them cold. The World Health Organization (WHO) estimates that 25-50% of global vaccines are wasted annually, much of this due to problems with maintaining a refrigeration “cold chain” during delivery. Researchers at Global Good designed the Arktek cooler to keep vaccines cold for over a month with no power required. The device combines an advanced design with high-efficiency insulation materials to prevent heat transfer.

Global Good Fund is a division of Intellectual Ventures dedicated to inventing technology that improves lives in the developing world. They aim to develop sustainable commercialization models which ensure the technology is affordable, accessible, and appropriate for developing regions. Global Good donated 30 Arktek coolers to help the WHO deliver vaccines during the Ebola outbreak in 2014, and to Nepal to assist with vaccinations after the 2015 earthquake. They have also partnered the Clinton Health Access Initiative, PATH, the Gates Foundation, UNICEF, and other United Nations organizations to conduct field trials with over 50 devices in Ghana, Senegal, Ethiopia and Nigeria. Arktek has been used to store vaccines for tuberculosis, polio, and the pentavalent vaccines covering influenza, whooping cough, tetanus, hepatitis B, and diphtheria. The technology has been licensed to a leading refrigeration manufacturer to produce the device at scale for an affordable price.

For more information on Patents for Humanity, including the latest announcements and more info about the program, visit the USPTO’s [Patents for Humanity webpage](#).

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