U.S. AIR FORCE TECHNOLOGY TRANSFER PROGRAM OFFICE

SUCCESS WITH

COOPERATIVE RESEARCH AND DEVELOPMEMT AGREEMENT

USAFSAM TO STUDY

Potential Transfer of Novel Viruses via Bed Bugs

CONTRACT NUMBER:
USAF CRADA-MTA No. 16-166-SM-01MTA

COMPANY NAME:
University Hospitals of Cleveland, Cleveland, OH

TECHNICAL PROJECT OFFICE:
711th Human Performance Wing, Wright-Patterson AFB, OH

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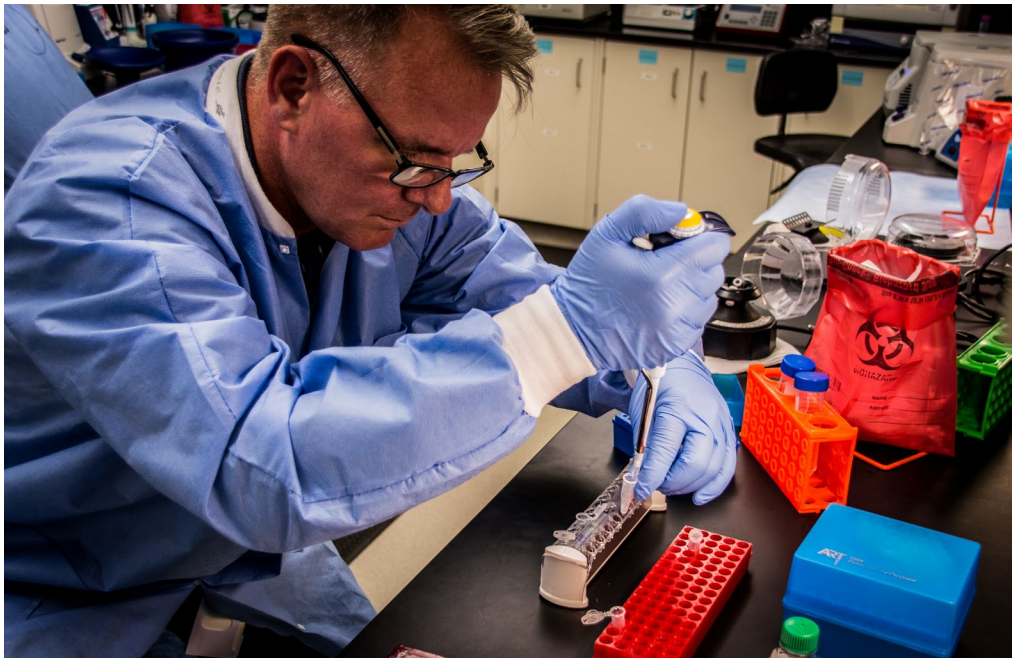
The U.S. Air Force School of Aerospace Medicine (USAFSAM) recently signed a limited-purpose Material Transfer Agreement Cooperative Research and Development Agreement (MTA-CRADA) with the University Hospitals of Cleveland, Ohio. This unique agreement doesn't include a financial contribution, rather the hospital is providing USAFSAM with frozen bed bugs collected from patients with symptomatic illness for testing and evaluation. In return, USAFSAM will share the test data with the hospital.

REQUIREMENT

Bedbug infestation has become a national problem. Although traditional testing has shown that the insects do not transfer known viruses to humans, further testing needs to be done to detect the possible transfer of novel viruses.



John Trombley, a biomedical lab technician at the U.S. Air Force School of Aerospace Medicine, works on exome sequencing. (Courtesy photo)

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TECHNOLOGY TRANSFER

As part of the Air Force Research Laboratory, 711th Human Performance Wing (HPW), USAFSAM strives to continually work towards detecting new and emerging pathogens. With the material from the hospital, the lab plans to utilize next generation sequence testing (Illumina miSeq and the Pacbio) to investigate sequences that aren't in current databases.

"ER doctors report seeing many patients with bed bug bites that have symptoms of infections," said Dr. Clarise Starr from USAFSAM. "But testing for the known viruses comes up negative. At USAFAM, we have the capability to do virus hunting in a way that can benefit both the military and civilian populations. This testing is one such instance."

The goal of the initial round of testing is to identify unusual sequences that may exist and compile data that may support further studies.

"Material transfer agreements are one type of limited-purpose CRADAs that allow for quick collaboration with the Air Force," said Mr. John Schutte, 711th HPW Technology Transfer Specialist. A CRADA is a legal agreement between a federal laboratory and one or more nonfederal parties such as private industry and academia. CRADAs offer both parties the opportunity to leverage each other's resources when conducting research and development that is mutually beneficial.

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"It is our goal to expand our bio-surveillance capabilities so that we will get to a point where we can screen for all organisms in any environment in which our airman work," said Dr. Clarise Starr from USAFSAM. "We want the ability to identify any risks before people are symptomatic."

According to Tina Culpepper, the Sensors Technology Transfer Manager, these opportunities are "a cool way for [your] scientists and engineers to add some neat things to their resume, to demonstrate their standing as lead experts in their fields and generate additional dollars for the laboratory."