

TECHNOLOGY/BUSINESS OPPORTUNITY
PORTABLE MEDICAL DIAGNOSIS INSTRUMENT

Opportunity

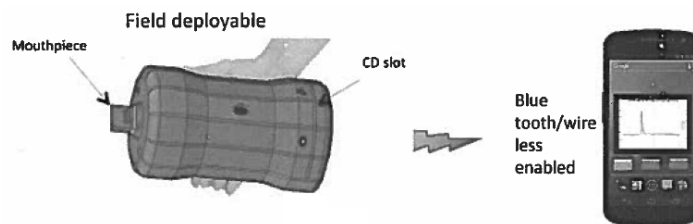
Lawrence Livermore National Laboratory (LLNL), operated by the Lawrence Livermore National Security (LLNS), LLC under contract no. DE-AC52-07NA27344 (Contract 44) with the U.S. Department of Energy (DOE), is offering the opportunity to secure a license to exercise patent rights for commercializing its portable medical diagnosis instrument technology.

Background

Proper medical treatment has always been contingent on first accurately determining what is afflicting the patient. Often, if the reason for illness cannot be properly identified, attempted treatment may not benefit the patient, and, sometimes, may even cause the patient's condition to worsen. The necessity for proper medical diagnosis is apparent in contemporary healthcare but is particularly significant where access to interactive healthcare is not available, such as on exploratory missions to other planets. Personnel on deep space missions may encounter conditions or situations which may lead to known or even unpredictable illnesses and injuries. Thus, utilizing an adaptive device to aid in the medical diagnosis of known and, potentially, novel illnesses would be a great asset in that or similar situations.

Description

LLNL researchers have developed a portable device which analyzes one or multiple types of body fluids or gases to test for one or more medical conditions. A bodily fluid (such as blood, perspiration, saliva, breath, or urine) is put into a condenser surface and is then separated into both a primarily gas fluid component and a second one that is primarily liquid. These two samples from the same fluid or gas source are subjected to analysis by, in various combinations, five different instruments: a condenser, functionalized nanostructures, an optional volatilizer, a differential mobility spectrometer, and an optional biomarker analyzer. Each instrument provides a unique analysis of a physical or chemical element of the tested bodily fluid.



Advantages

LLNL's device provides a single-sample multi-faceted medium for portable medical diagnosis which could play a significant role in ensuring accurate diagnosis of humans in remote or austere environments, or environments where access to interactive healthcare is not available. Furthermore, this portable medical diagnosis instrument is equipped to process a diverse range of bodily fluids and gases, allowing it to assess the presence of a wide variety of illnesses.

Potential applications

- Accurate medical diagnosis in remote or austere environments for autonomous care away from interactive healthcare
- Diagnosis of a condition from a bodily fluid or gas sample or both
- Programming of the portable medical diagnosis instrument to identify novel illnesses after discovery

Development status

LLNL, Sandia National Laboratories, UC Davis and NASA have been granted a US Patent [9,824,870](#) "Portable medical diagnosis instrument" (LLNL internal case # IL-13001)

Please visit the IPO website at <https://ipo.llnl.gov/resources> for more information on working with LLNL and the industrial partnering and technology transfer process.

Note: **THIS IS NOT A PROCUREMENT**. Companies interested in commercializing LLNL's portable medical diagnosis instrument technology should provide a written statement of interest, which includes the following:

1. Company Name and address.
2. The name, address, and telephone number of a point of contact.
3. A description of corporate expertise and facilities relevant to commercializing this technology.

Written responses should be directed to:

Lawrence Livermore National Laboratory

Innovation and Partnerships Office

P.O. Box 808, L-795

Livermore, CA 94551-0808

Attention: FBO 443-19

Please provide your written statement within thirty (30) days from the date this announcement is published to ensure consideration of your interest in commercializing LLNL's portable medical diagnosis instrument technology.