



Press Release

## Fighting Epidemics in Africa

Researchers develop a rapid test for diagnosing malaria and other tropical diseases out of blood in a single run

World Malaria Day on 25 April 2016 calls to mind a widespread disease that is often forgotten in times of global threats like Ebola or Zika. It is difficult to diagnose malaria, because fever is the main symptom of numerous tropical infections. The CD-shaped platform “LabDisk” now allows doctors to differentiate the fever-causing disease by testing a single blood sample for several pathogens within a timeframe of 60 to 90 minutes with the help of particular biochemical components. The diagnostic instrument for malaria and other tropical infectious diseases was developed by a team of scientists led by Dr. **Konstantinos Mitsakakis** from the University of Freiburg’s Department of Microsystems Engineering (IMTEK) and Freiburg’s Hahn-Schickard Institute for Microanalysis Systems. The disk is easy and inexpensive to produce, is designed for use with a portable device, and can be operated at the point of need even by untrained personnel. It is, thus, particularly well suited for use in developing countries. The LabDisk is the result of the project “DiscoGnosis,” which received three million euros in funding from the European Commission and ends on 30 April 2016.

In March 2016, doctors at the Institut Pasteur de Dakar in Senegal successfully used the platform to test blood samples for malaria parasites, dengue and chikungunya viruses, as well as for salmonella bacteria. These results demonstrate that the LabDisk is capable of detecting the three main categories of pathogens – parasites, bacteria, and viruses – as well as up to twelve different types of pathogens at once. In cases in which doctors had

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only found the chikungunya virus using standard methods, for example, the LabDisk also successfully diagnosed further infections with dengue and malaria. In addition, it even identified subtypes of the dengue virus that had not been diagnosed. Moreover, the scientists can quickly adapt the disk to enable testing of further pathogens by modifying the composition of active biochemical agents. This makes it possible to react rapidly and efficiently to epidemics. On account of the recent outbreak of the Zika virus, the project consortium, including research institutions and companies from several European countries, plans to expand the system to also enable testing for this virus.

**Further information:**

[www.DiscoGnosis.eu](http://www.DiscoGnosis.eu)

[www.imtek.de/anwendungen](http://www.imtek.de/anwendungen)

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