Device could put disease detection in the palm of a hand

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Berkeley associate professor Lydia Sohn (right) explains her nanocytometer to Arden Bement, director of the National Science Foundation, at a Capitol Hill exhibition.

Lydia Sohn, associate professor of mechanical engineering at UC Berkeley, took her show on the road last week with a demonstration of her handheld nanocytometer at a "science fair" for leaders of Congress and the National Science Foundation.

The Coalition for National Science Funding Exhibition, on Capitol Hill, brought together researchers from 16 universities and 40 national scientific and educational associations. Sohn's contribution was her "pore-
on-a-chip" technology, developed with an NSF grant, that makes disease
detection at home or in the field an affordable reality. The device is
currently in the pipeline for commercial development.

The nanocytometer is a pocket-sized device that can rapidly identify
diseases by testing a single drop of blood using an inexpensive
disposable cartridge. The cartridges contain a silicon chip laden with
artificial nanopores that mimic the filtration system of human cells.

"The nanocytometer lets us work at the intersection of a number of
disciplines, from biology an mechanical engineering to solid-state
physics and chemical engineering," says Sohn, who developed the device
in collaboration with Andrea Carbonaro and Haiyan Huang of UC
Berkeley and Lucy Godley of the University of Chicago. The tool has
the potential to boost survival chances for leukemia, prostate or breast-
cancer patients — particularly where the cancer has recurred — by
offering early detection of rare, isolated cancer cells.

Source: UC Berkeley

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