BIOE.44

Synthetic Biology Lab

27 April 2010 Lecture / Discussion notes

http://openwetware.org/wiki/Stanford/BIOE44

GOALS FOR THIS WEEK

1. Choosing a pollutant to sense.

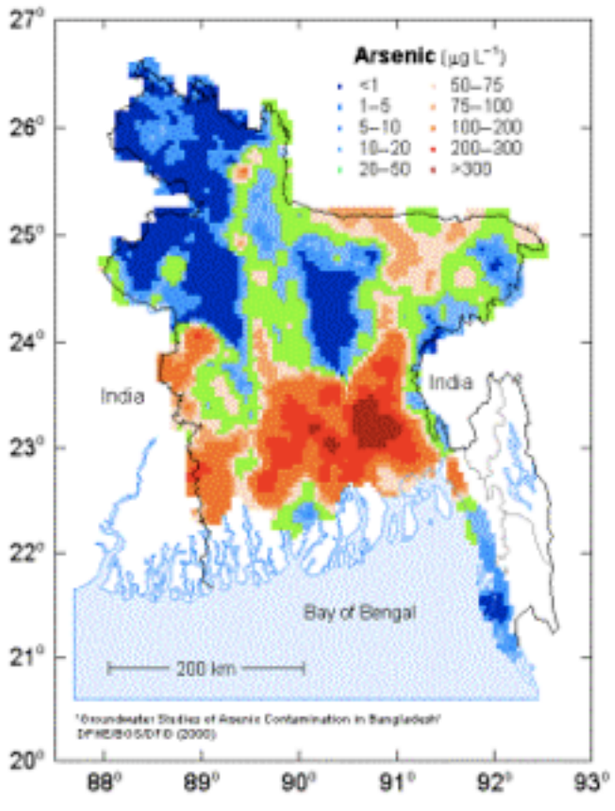
2. Design and order a novel Pollutant -> PoPS Sensor Device

Example: Edinburgh iGEM Team's Arsensic Sensor

Why detect arsenic?

Bangladesh

Another cruel twist of fate…



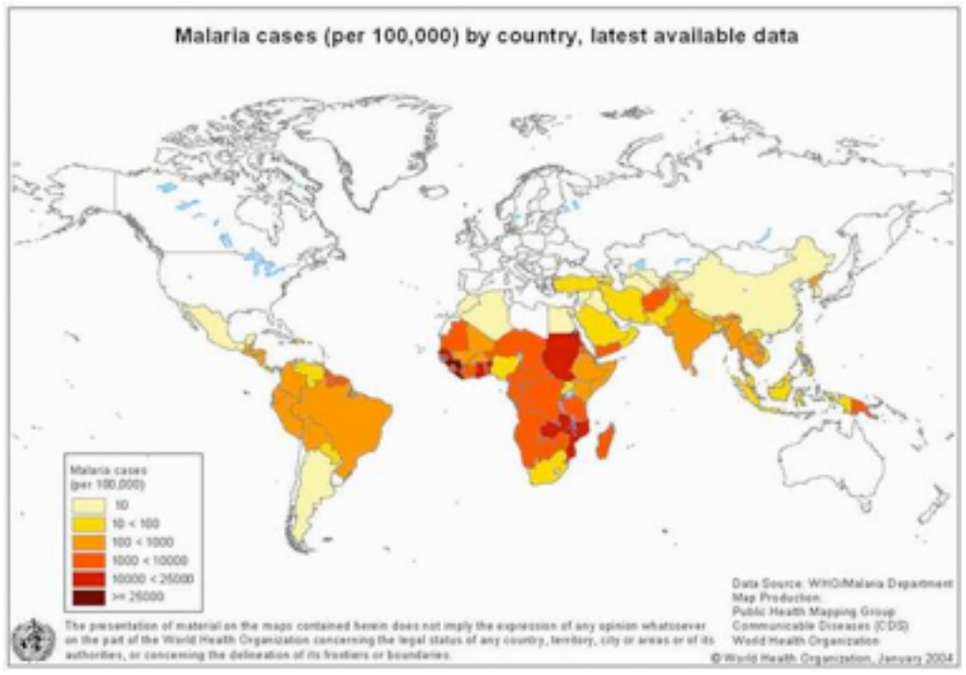
33-75 million people affected

Arsenic detection method

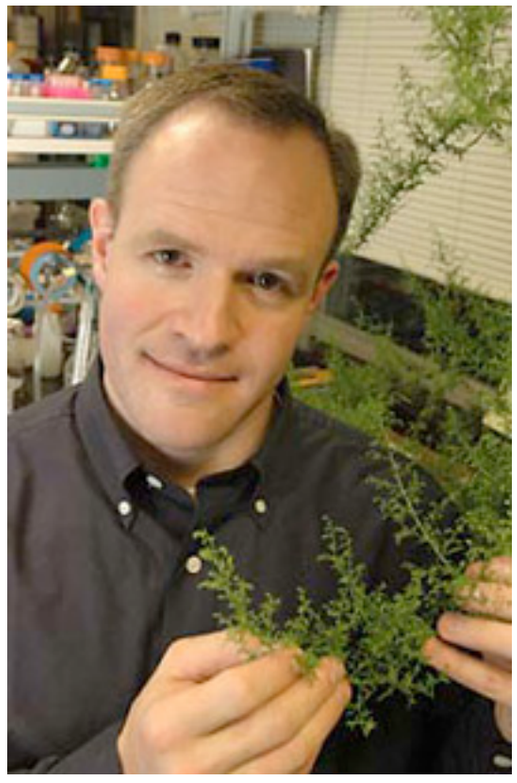
- Current field technology: the Gutzeit Method

- Expensive and unreliable (max sensitivity of 50 ppb & 33% false negatives)

Treating malaria w/ synth. bio.



1) Malaria is a global problem, artemisinin offers a cure.



2) Jay Keasling's team spent $25M to make artemisinin via biotechnology.