

PROJECT in the Folch lab (EE adjunct):

Electrochemical microsensors for parallel detection of cytokine activity from intact tumor samples

- Combines cancer and EE
- Ideal for a MS student (1 year)

The problem

Median cost to develop a single cancer drug

\$2.7 billion [2009-2018]

Time for drug approval

12.5 Years

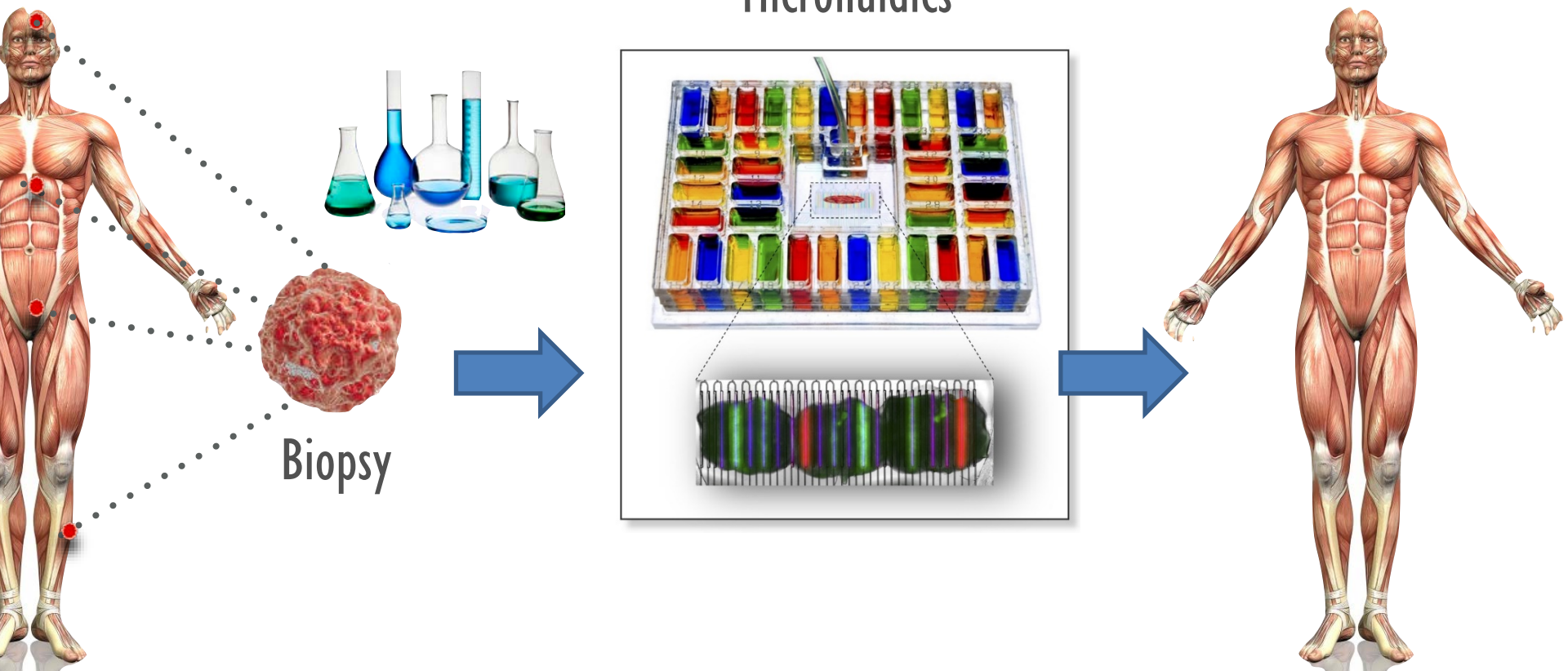
% of cancer drug approvals

<4 % [2000-2015]

54% of failures due to lack of efficacy



The solution



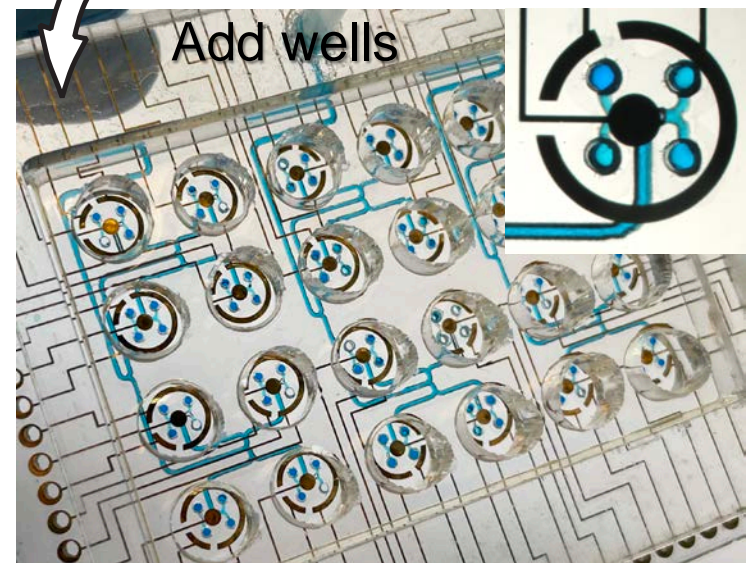
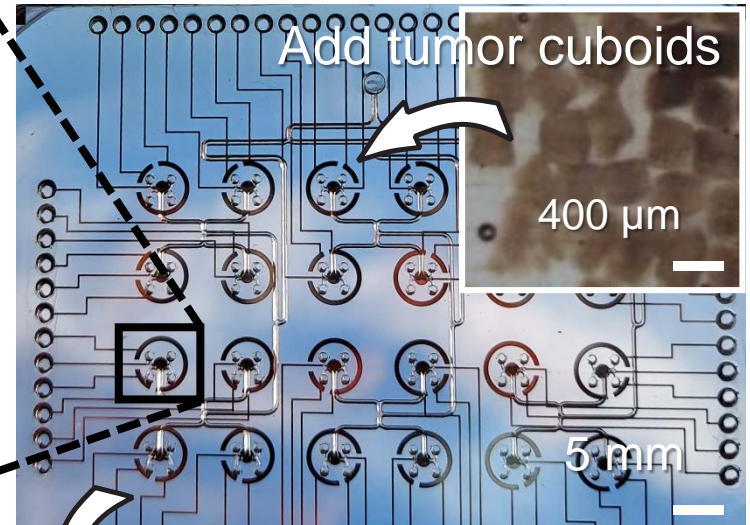
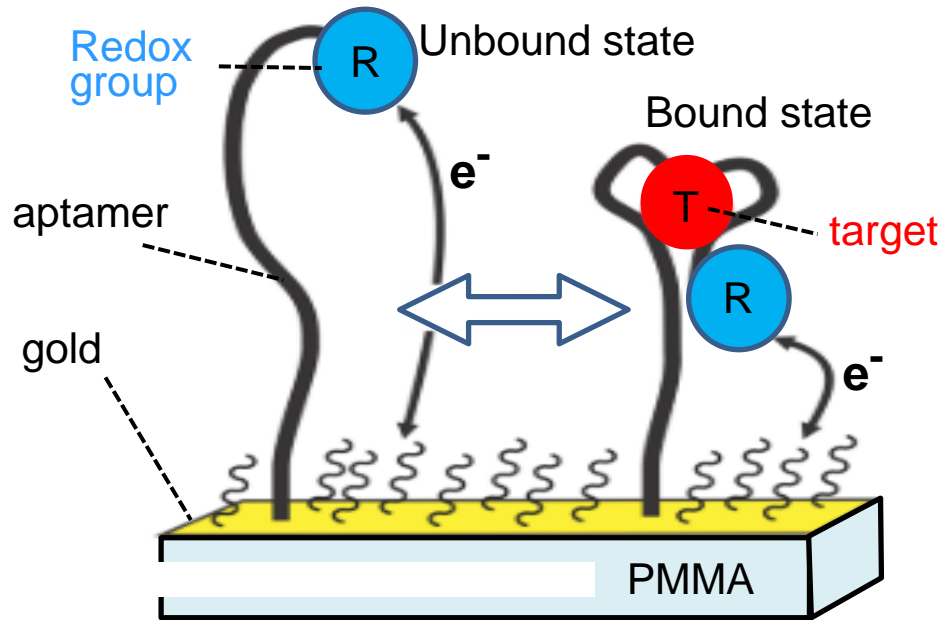
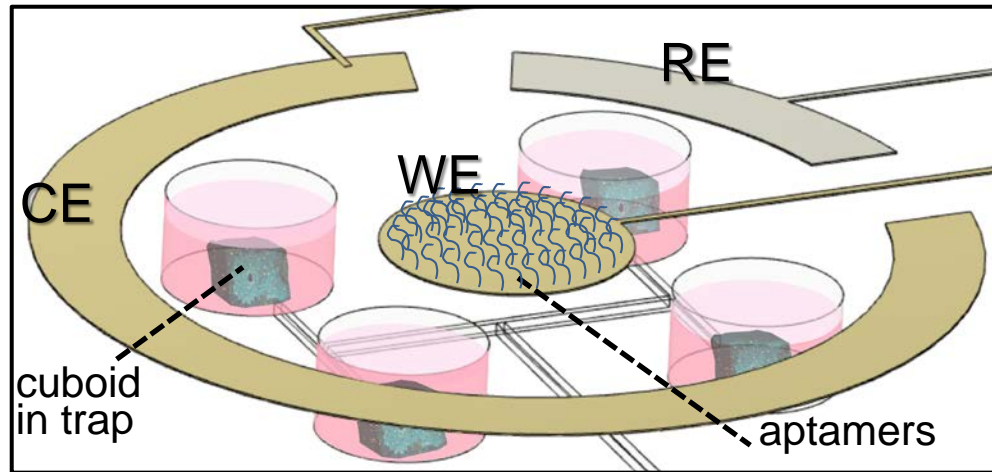
Pre-clinical tests

Drug evaluation

Clinical trials



Integrated electrochemical sensors for continuous tumor monitoring



Challenge (1-yr project): scale-up requires electronic multiplexing