

# GUT SENSOR COULD MONITOR HEALTH—AND BEAM RESULTS TO A SMARTPHONE

Science, May 2018

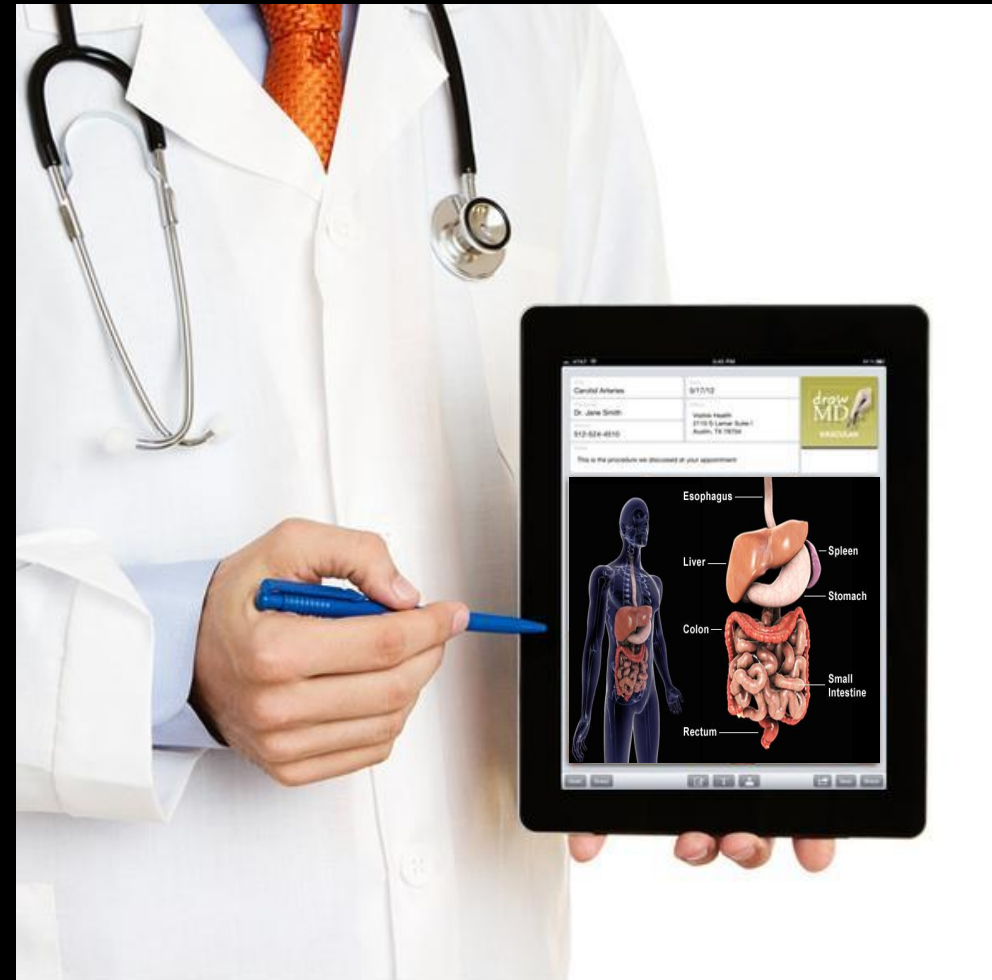
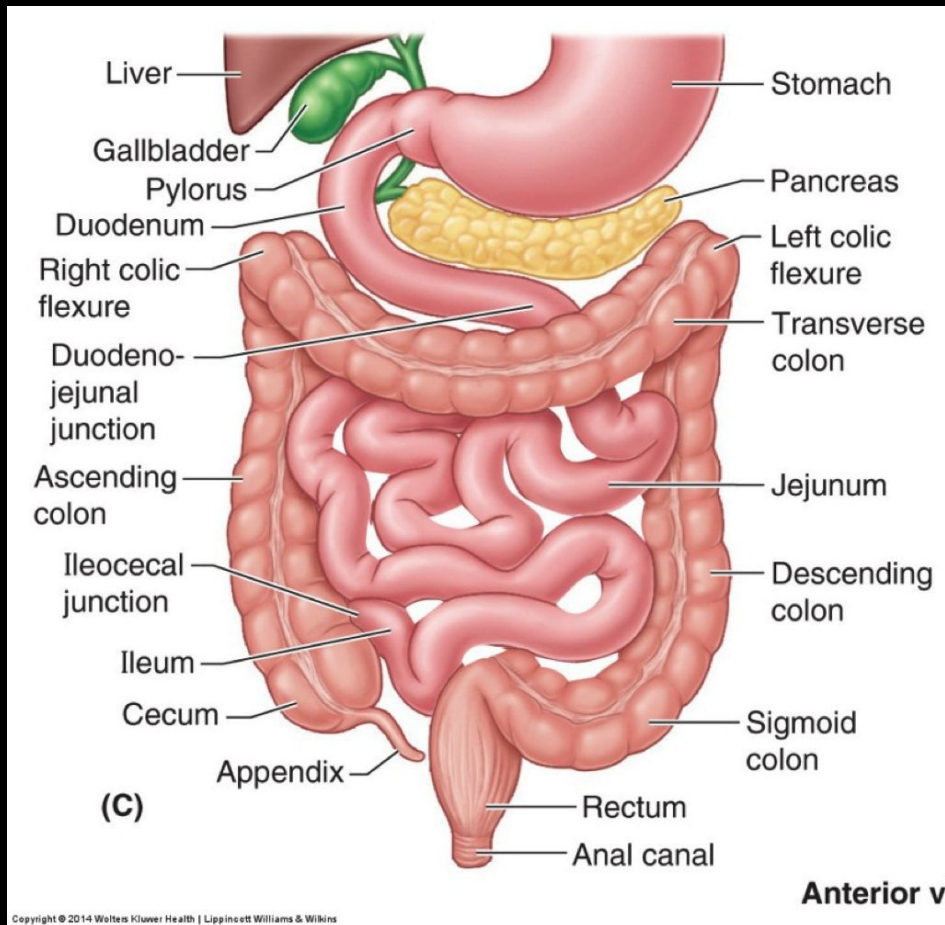
Borisov Alexander 517

MIPT 2019

# PLAN

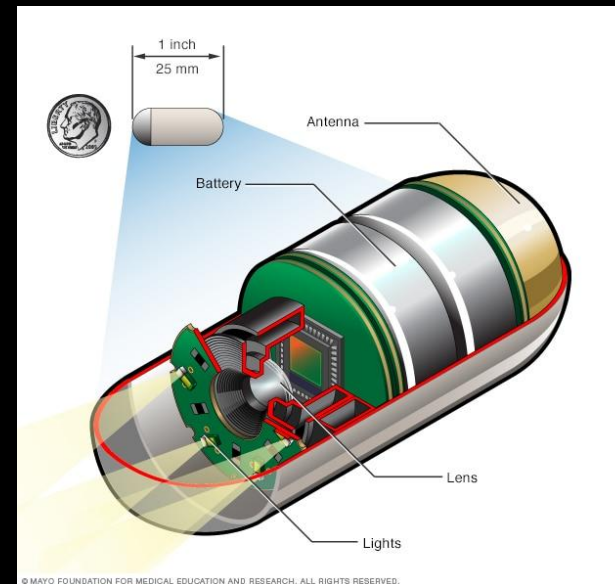
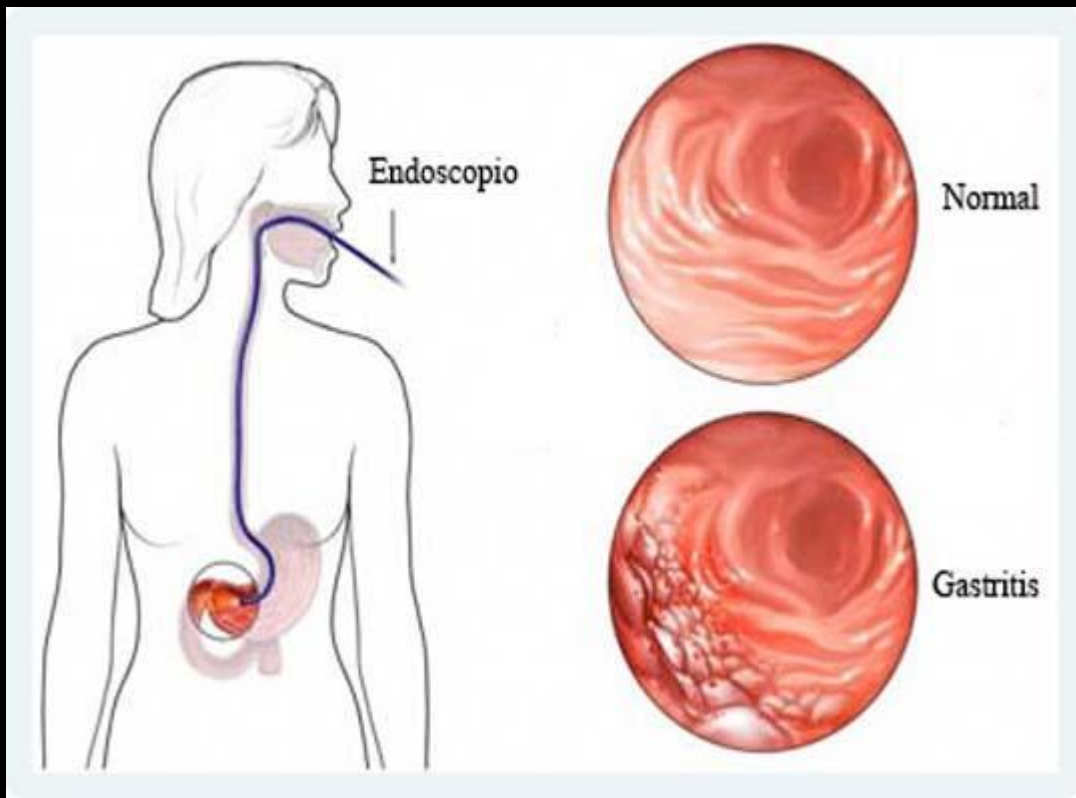
- **General information.**
- **Method and equipment**
- **Achievement and concept**

# THE FUTURE OF MEDICINE

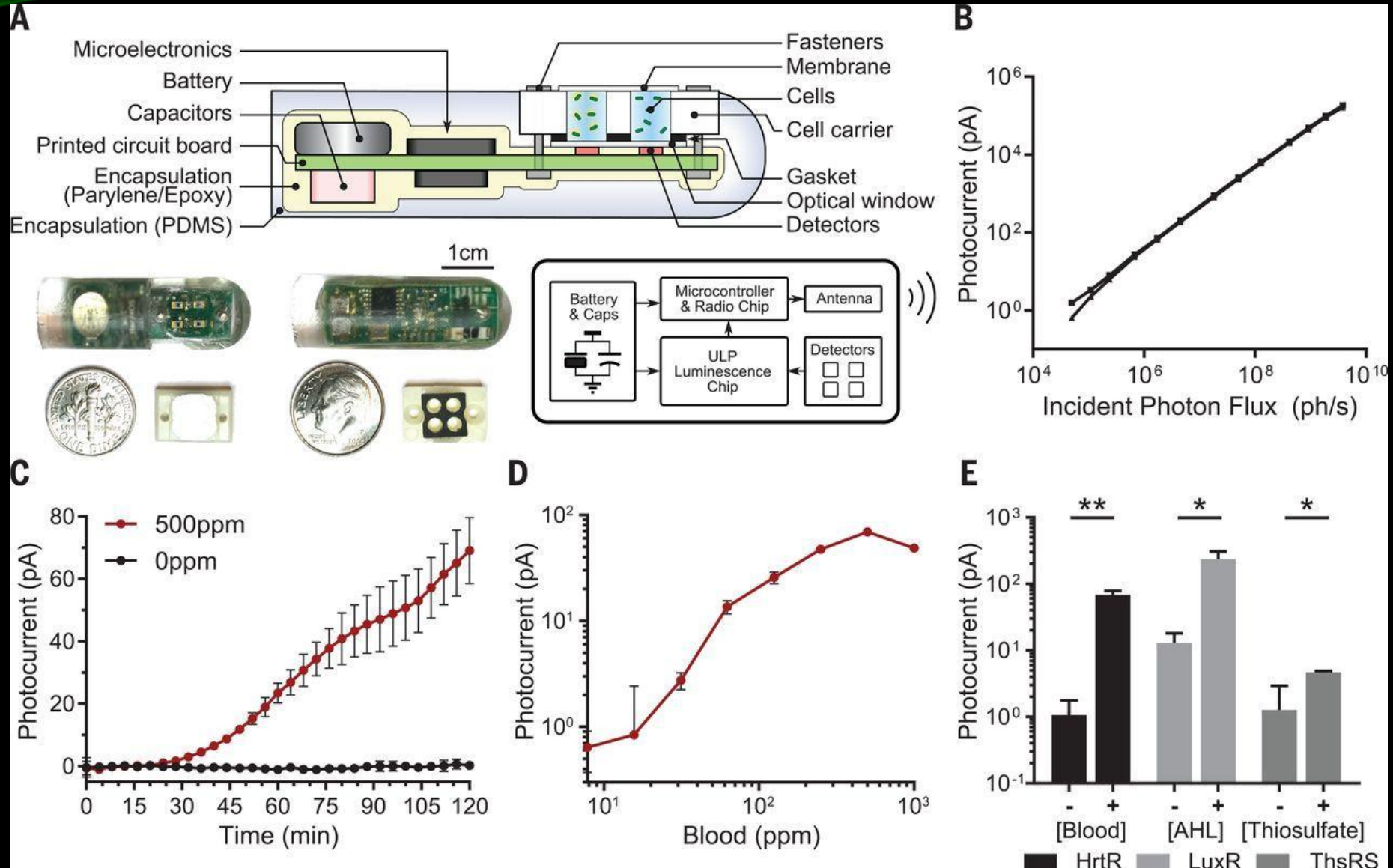


# GENERAL INFORMATION.

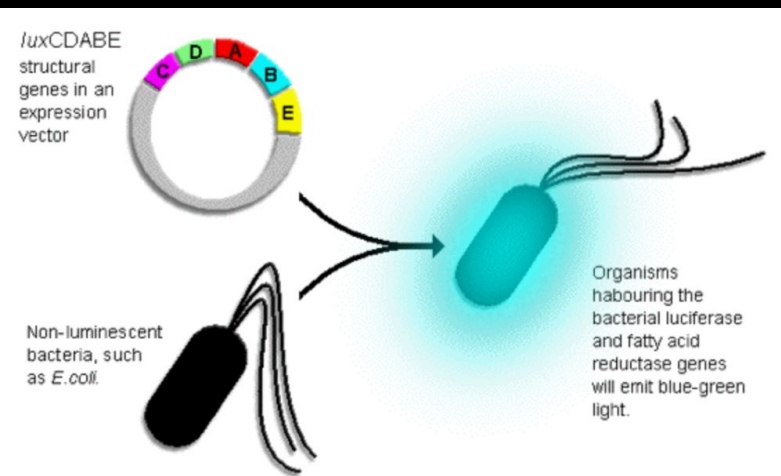
- The importance of gut health
- Available medical research tools



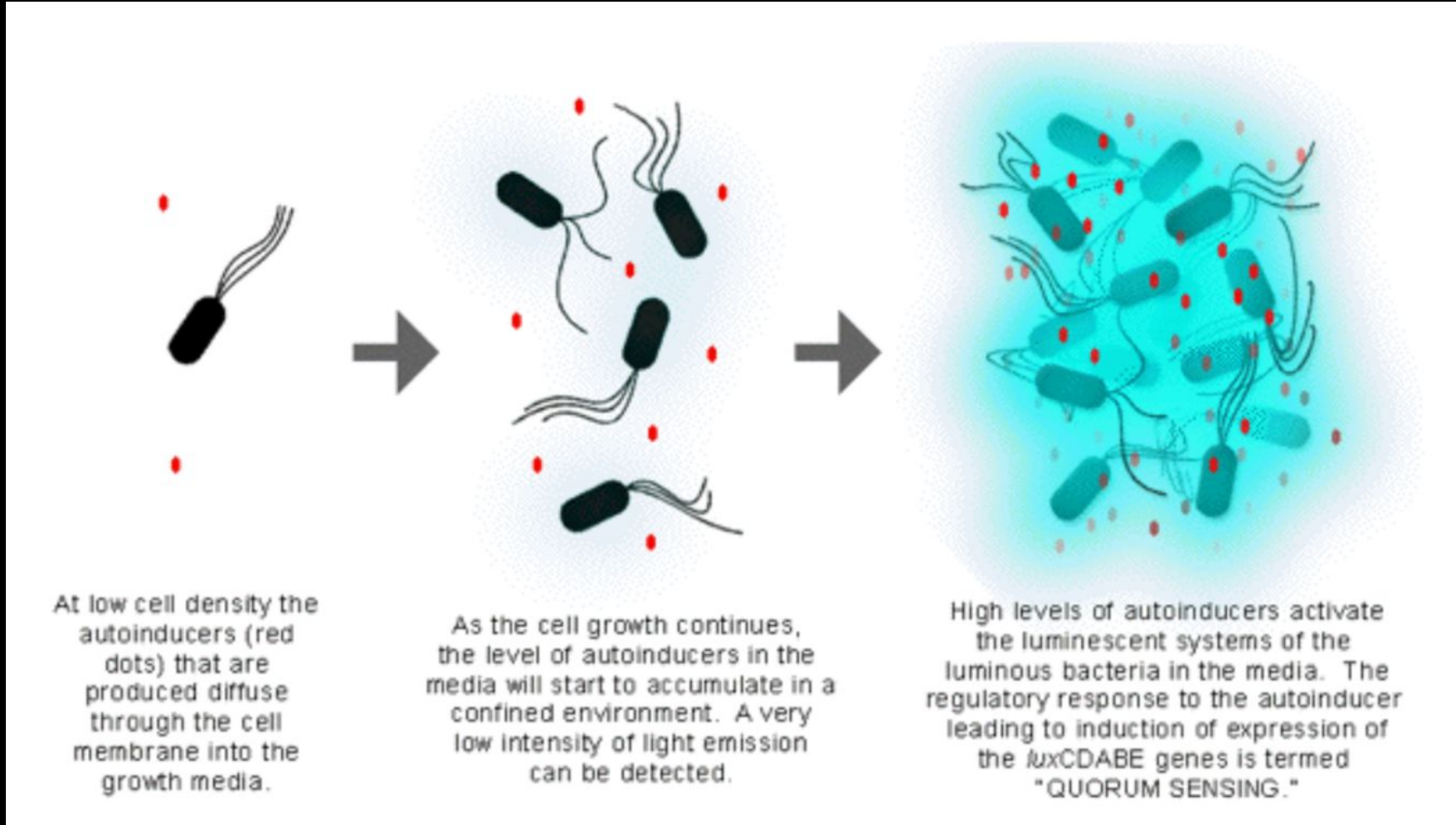
# METHOD AND EQUIPMENT



# BACTERIAL BIOLUMINESCENCE



**Figure 19.** The "insertion" of the foreign *luxCDABE* structural genes into the organism allows the fatty acid reductase enzyme complex and luciferase to be expressed, and the function of luciferase confers the organism the ability to emit light.

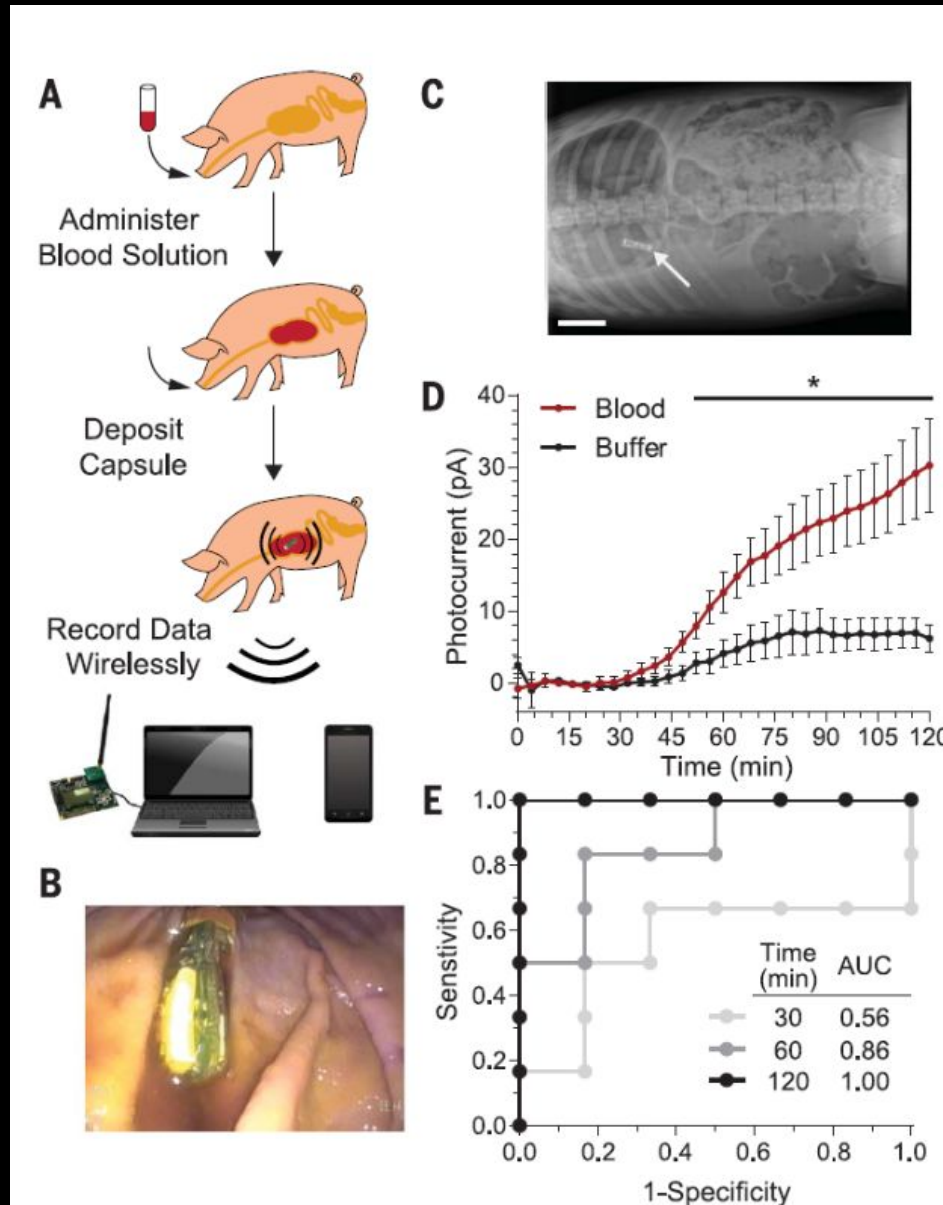


# ACHIEVEMENT AND CONCEPT

- First results on pigs
- Size problem
- More biomarkers

# FIRST RESULTS ON PIGS

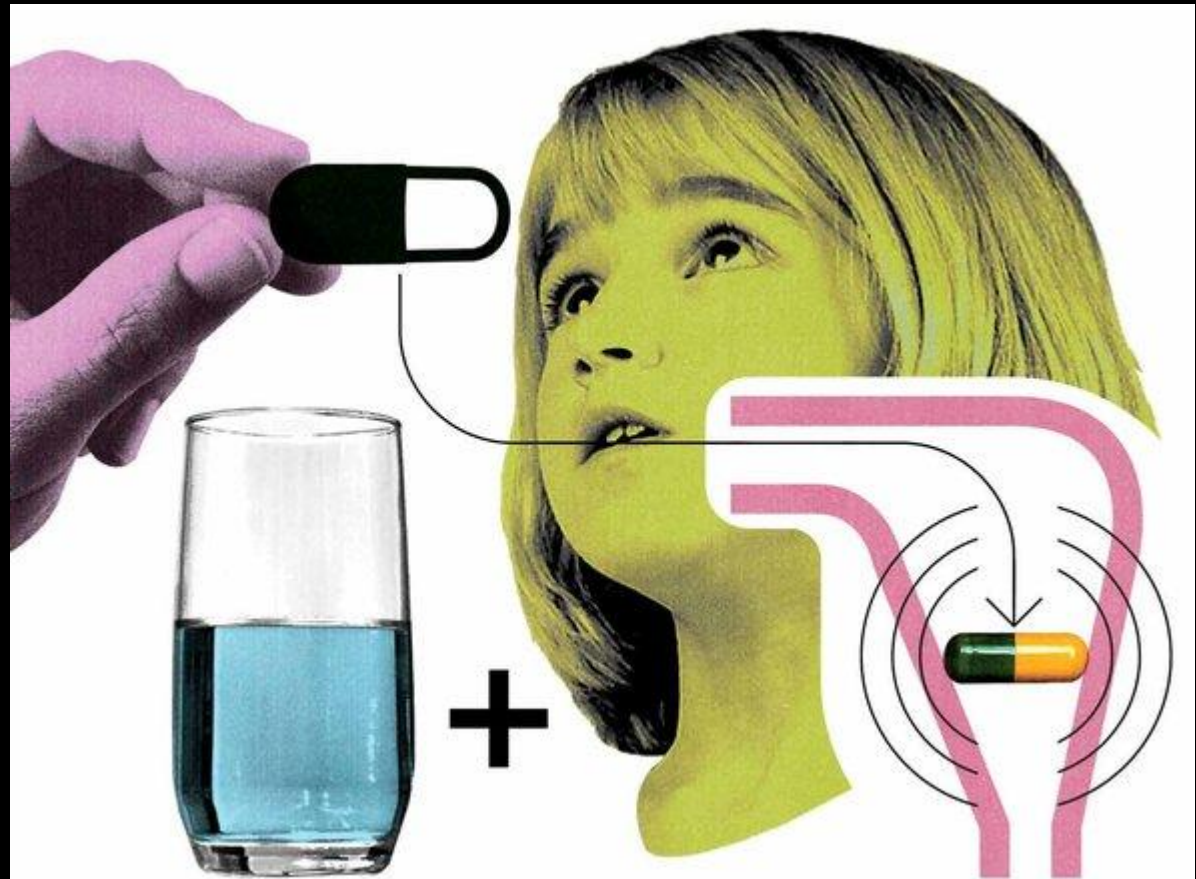
- The device was able to distinguish between pigs with modeled GI bleeding and a control group, with 100 percent accuracy.





# SIZE PROBLEM

- The main task is to reduce the size of the device



# SUMMARY

- **General information.**
- **Method and equipment**
- **Achievement and concept**

# QUESTIONS

