

MICROQUAD

LIGHTS UP!



MICROQUAD
SUPERCONDUCTING PHOTON DETECTORS

ABOUT US



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THE TECHNOLOGY

Superconducting Nanowire Single Photon Detector (by *Single Quantum*[®]) combined with **confocal microscope** (by *PicoQuant*[®])

- It detects a single particle of light - a photon!
- From superconductor to conductor properties when a photon hits the nanowire
- It is the **fastest** and **most precise** SNSPD on the market
- The integration allows for the precise spatial mapping of photoluminescent signals while simultaneously capturing their temporal behavior



A fluorescence microscopy image showing numerous cells. The nuclei are stained blue, the cytoplasm and some organelles are stained green, and the cell membranes or other structures are stained red. The background is black.

FAST DIAGNOSTICS FOR BACTERIAL INFECTIONS

*"Antimicrobial resistance is
the silent pandemic."*

Prof. Mohsen Naghavi

EVIDENCE

○ **FROM 2 UP
TO 5 DAYS**

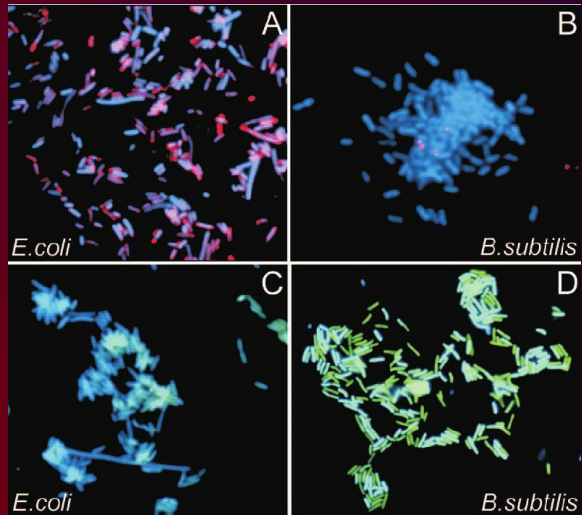
To get blood test result



PROBLEM

- The current technique to detect bacterial infection requires blood culture, which takes days, sometimes even weeks.
- In the meantime patients are getting a generic therapy, different from the one they need. Not very effective.

OUR SOLUTION



Exploit the precision and the speed of SNSPDs for **fast** bacterial detection via biomarkers and biosensors

VALUE STATEMENT

“EACH AND EVERY DAY, HOUR, MINUTE, SECOND COUNTS
WHEN TALKING ABOUT HUMAN LIVES”

- **TIME:** the overall time of the analysis is reduced, leading to faster results.
- **ACCURACY:** MicroQuad would allow to differentiate bacteria and viruses from the first sample processing.
- **SPEED:** a faster processing of results could lead to an overall improved efficiency of the laboratory.





THANK YOU!

Microquad Team