



Microfluidic Systems For Drug Analytical Applications

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Introduction

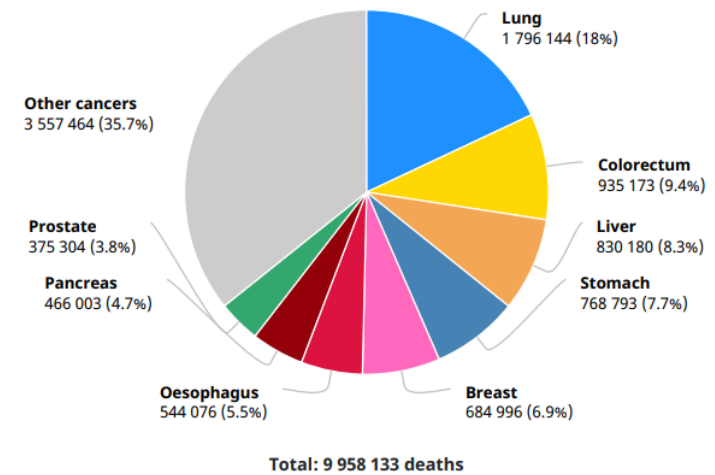
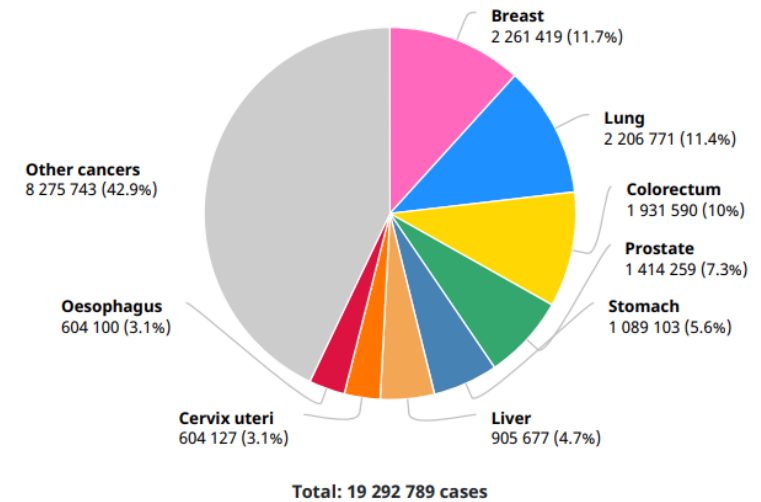


Leading cause of death worldwide

- 19 million newly diagnosed cancer patients
- ~10 million cancer related deaths worldwide

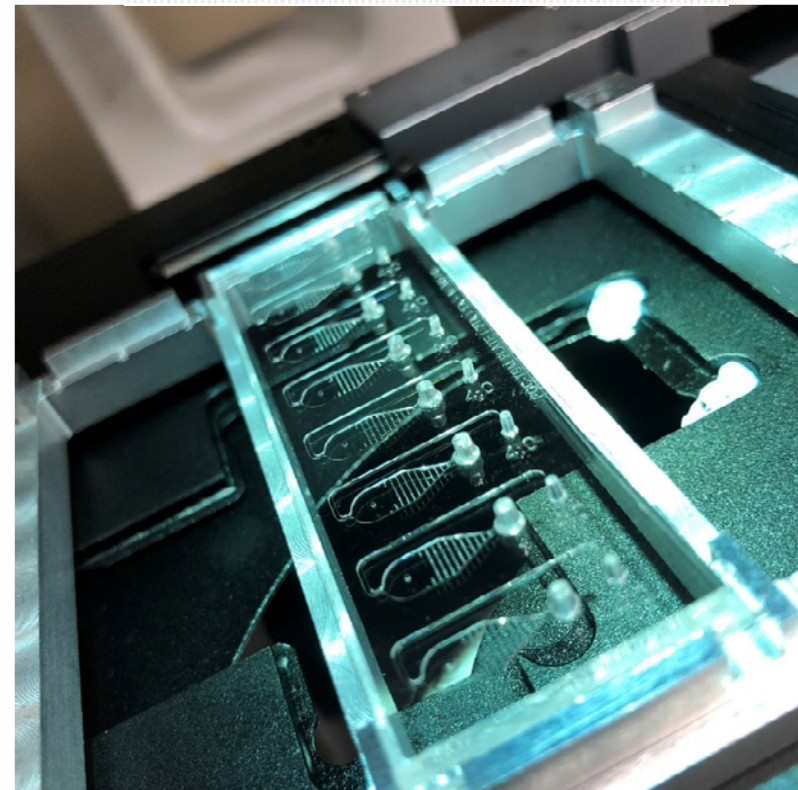
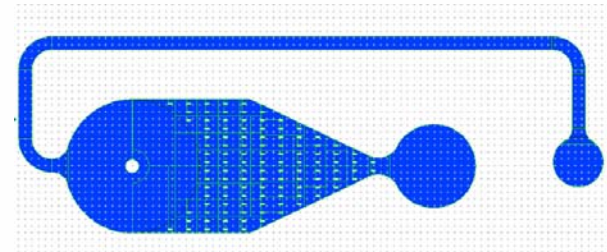
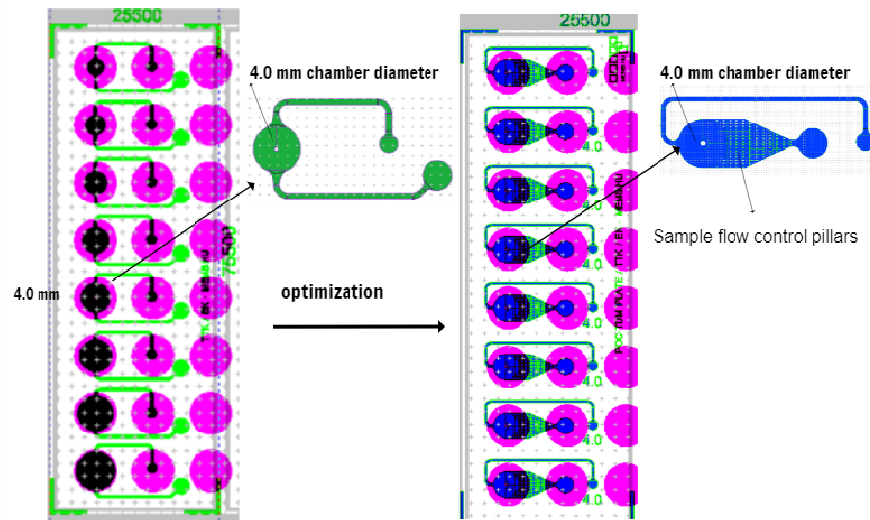
Chemotherapy (CT) treatments

- 60%-of all cancer patients ~11 million people
- Still low 5-years survival rate

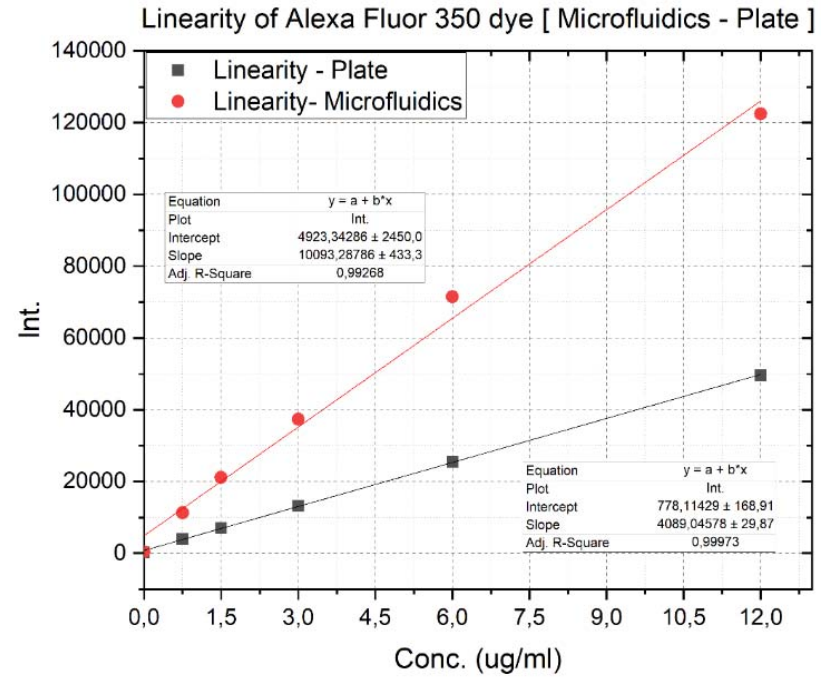
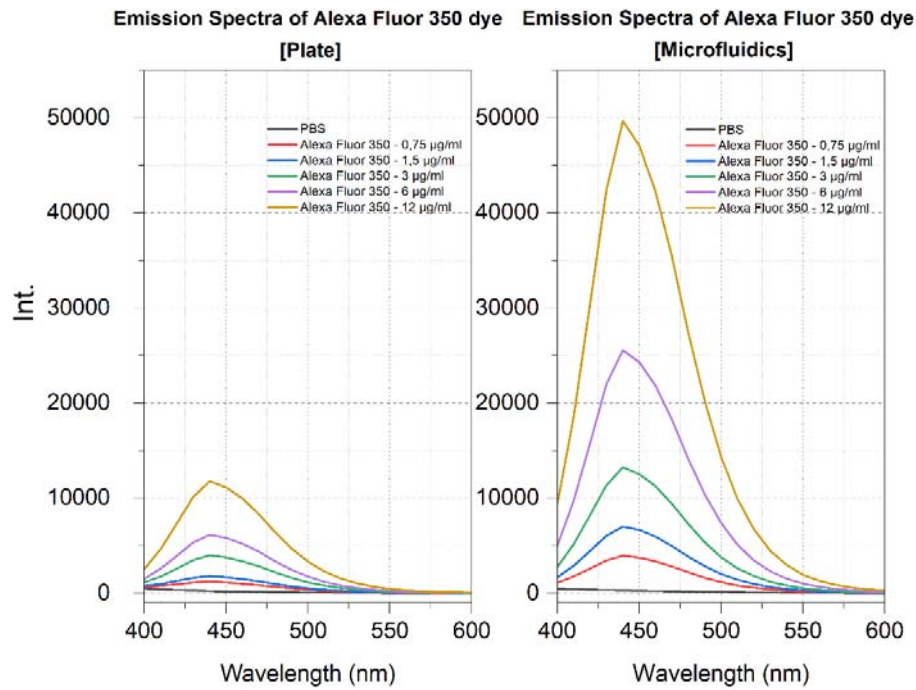


Results

- Create a tool with significantly reduced sample volumes and appropriate sensitivity.
- Microfluidic structures were designed by Clewin software and the chip was fabricated by soft lithography.
- Geometric parameters were optimized by modifying the **chamber diameter** and **chamber depth**.



Results



Advanced sensitivity and excellent linearity ($R^2 \sim 0,99$)

Publication



Dóra Bereczki, András Füredi and Péter Fürjes "Plate Reader Compatible Microfluidic Chambers for Fluorescent Spectroscopy," Mátrafüred – International Meeting on Chemical Sensors, June 12-17, 2022, Visegrád, Hungary

Subjects

Semiconductor technology (Horváth Zsolt József)

Semiconductor devices (Horváth Zsolt József)

References

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