

Open position: Image Analysis Intern

Contract: Internship, could lead to a CDI position

Starting date: Early 2022

Location: Paris Brain Institute, Hôpital Pitié Salpêtrière, Paris

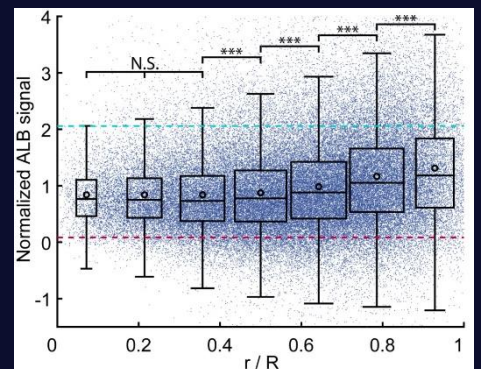
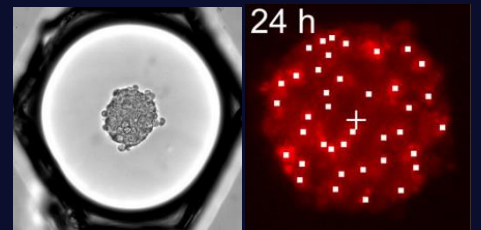
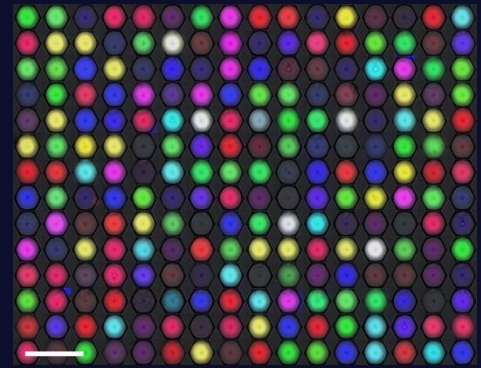


Microfluidics for clinical oncology

OKOMERA is a newly created start-up (2020) spun out from Ecole Polytechnique and Institut Pasteur, whose key mission is to help selecting the best treatment for each cancer patient. OKOMERA is currently codeveloping functional *ex vivo* assays with our clients, key opinion leaders leading research in precision cancer medicine.

OKOMERA clients currently use our 3D cell culture microfluidic technology [1] to cultivate primary patient cells from tumor biopsies, and/or cell lines, to assess cell functionalities (drug sensitivity, morphology, migration ...). OKOMERA's droplet array technology enables to automate the formation of complex 3D cell cultures (micro-tumors with co-cultures, hydrogels, ...), and to test tens to hundreds of individual conditions on a single chip [2]. OKOMERA prides itself on supplying easy-to-use products (fluidic machine, chips and software) built for non-experts who wish to automate high-throughput, 3D sample testing.

OKOMERA was awarded the national iLAB prize from BPI France in 2019 (Project title MultiScreen), the COMET program from WILCO, is currently incubated at Agoranov and iPEPS (Institut du Cerveau) in Paris and recently finalized its initial funding round. We are currently a team of 6, and are actively hiring to grow and deliver our alpha solution to our first clients by end of 2021 and develop the next generation solution.



Internship description

Image analysis is OKOMERA's main readout, for instance for assessing the efficiency of a cancer treatment before administration to the patient. A first version of the analysis software is already being



used. The aim of this internship is to participate to the future version of the software. In particular, the intern will be in charge of improving already existing features based on users feedback using modern image analysis technics and exploring new set of features enabling new usage of the microfluidic machine like cell co-culture. The intern would be involved in gathering user feedback with biologists and will be working in Okomera's software team.

Requirements

- Strong image analysis skills
- A clear mathematical understanding of statistics
- Strong Python skills, python packaging, Git
- Ability to work in English in an international team

Nice to have

- CI/CD technics, cloud architecture
- Experiences with computer vision, data analysis or machine learning libraries
- Understanding of cell culture, microscopy and fluorescent imaging

Contact info

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References

- [1] S. Sart, R. F.-X. Tomasi, G. Amselem, and C. N. Baroud, "Multiscale cytometry and regulation of 3D cell cultures on a chip," *Nat. Commun.*, vol. 8, p. 469, 2017.
- [2] R. F.-X. Tomasi, S. Sart, T. Champetier, and C. N. Baroud, "Individual Control and Quantification of 3D Spheroids in a High-Density Microfluidic Droplet Array," *Cell Rep.*, vol. 31, no. 8, 2020.