

# HOOKE BIO COLLABORATE WITH CAPPa IN DEVELOPING A WIDE FIELD FLUORESCENCE IMAGING SYSTEM



## BACKGROUND

Hooke Bio is a new pharmaceutical company operating in the preclinical and early stages of drug discovery. It draws its strength from the close cooperation of its biologists and engineers. The engineers design, patent and test new microfluidic technology while the scientists apply the technology to finding new therapeutics. This approach requires very high throughput automated testing at small volumes with relevant, translatable disease models. All pathogenic diseases will be considered. The recent discovery of induced Pluripotent Stem Cells (iPSCs) makes this possible for the first time. The primary focus of Hooke Bio is on drug combinations, however, the technology is highly adaptable and can be easily used in a variety of additional applications.

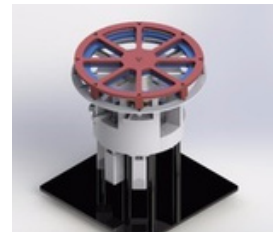
## THE NEED

There is an important unmet need for new medicines that can be mediated using ultra-high-throughput microfluidic screening. High-throughput screening is required to screen vast numbers of drugs and drug combinations, as their effects on cells are difficult to predict. Hooke Bio developed the Engima to tackle this problem. The Hooke Bio platform (Enigma gen 0) was restricted by narrow field of view (FOV) of ca. 1x1.5mm, which limited the testing to one fluidics channel only.



## THE SOLUTION

CAPPa designed and prototyped a bespoke imaging system with a larger FOV (10x6mm) that allows investigation on multiplexed channels (8). Moreover, an expensive and potentially eye-hazardous 488nm laser was replaced with an LED based illumination solution. The system was also integrated with a tailor-made software solution.



## BENEFITS OF THE ENGAGEMENT

Hooke Bio envisages expanding its range of tests to other cell lines and disease models. The company is also interested in personalised medicine, taking samples of cells from patients and screening the relevant disease specific drugs against these samples. The high content screening and image analysis is a process that is going to grow in sophistication. The optics and software development will form part of an on-going collaboration between Hooke Bio and CAPPa in the future. CAPPa and Hooke Bio have also been successful in securing €1.9M in funding from the state through the highly competitive Disruptive Technology Innovation Fund.

**"I would happily recommend CAPPa because of their very high levels of expertise. The system that we are developing is quite a high throughput system so not only did we need to have some bespoke optics designed, we also needed some software to manage that process and software to do the analysis. The great thing about coming to CAPPa and talking to the staff here is that it's a one stop shop for quite a broad variety of needs. CAPPa are very flexible and willing to engage with industry. I wouldn't even know where to look for this service in the country and probably in Europe".**

- Mark Lyons, CEO, Hooke Bio.