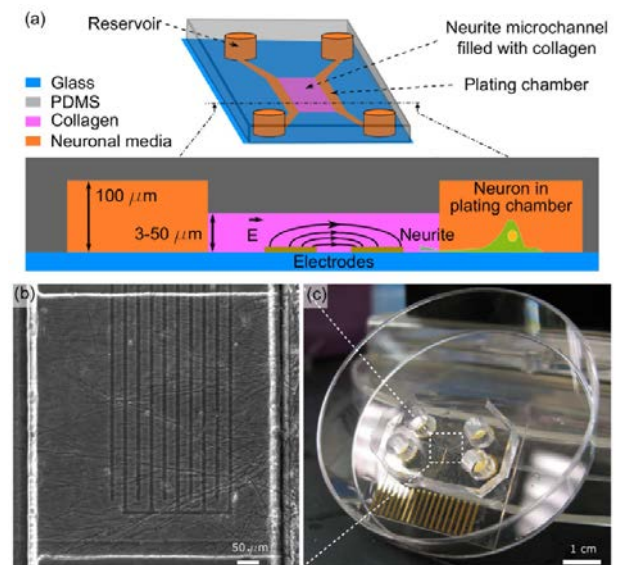# Engineer position:
Development of microfluidic technologies for neuroscience research

Most brain diseases are caused by neuronal degeneration and loss of specific neuronal connections. These include chronic disorders such as neurodegenerative diseases but also acute injury, such as cerebrovascular accidents. We lack an effective therapeutic approach to delay such a degeneration, or to stimulate the regrowth of neurons after a massive loss. Our group develops BioMEMs for neuroscience. We have developed novel concepts in microfluidics designs to fully reproduce brain circuits on a chip.

Objectives and detailed work:

In close collaboration with the Principal Investigator, a postdoctoral researcher and a PhD student, the candidate will be fabricating compartmentalized microfluidic chips with 3 to 4 aligned layers of classical photoresist (as shown on the Figure[1]). The chip will be fabricated in the CEA cleanroom and in the LTM microfablab. The candidate will also develop the next generation of 3D microfluidic chips with access to a unique 3D printer with a 1 µm resolution capacity, home-made resists and high resolution photoplotter. The candidate will have to be pro-active in the development of new fabrication technologies for neuroscience applications. This project is financially supported by a European Research Council starting grant.

Future possibility: Academic engineer position at LTM or possible spin-off company

Profile:

We are looking for a motivated individual who wants to work at the interface between neuroscience and microfabrication. We are ideally looking for a candidate with a proven track record of working on microfluidic devices fabrication for life science and able to interact with biologist and non-biologist alike. While having a background in 3D printing techniques would be an advantage, the candidate will be fully trained at LTM in this regard.

Position open in:	January 2017	**Salary**:	~2000€ net/month
Duration:	1 year, expandable		
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[1] Honegger T. et al, Microfluidic neurite guidance to study structure-function relationships in topologically complex population-based neural networks, Sci Rep.,6:28384, 2016.