Monday, March 4
2:30 pm – 4:00 pm
Room 301
Alvéole

BIOENGINEERING RELEVANT CELLULAR MICROENVIRONMENTS WITH PRIMO®

In vivo, the cellular microenvironment has a crucial impact on the regulation of cell behavior and functions, such as cellular differentiation, proliferation and migration. One of the challenges confronting cell biologists is to mimic this microenvironment *in vitro* in order to more efficiently study living cells and model diseases. To this end, we present the PRIMO device developed by ALVEOLE. This contactless and maskless UV projection system based on the LIMAP technology[(1)] allows to control the biochemical and mechanical properties of *in vitro* microenvironments. We will first show that PRIMO is a suitable tool to print biomolecules on substrates (including glass, plastic, soft/stiff substrates, textured surfaces, etc.) with an exquisite control over protein densities (***micropatterning***). Then, we will also present how the projected UV light can be used in order to structure photosensitive resists (such as SU8) and create molds onto which elastomeric solutions can be polymerized (***microfabrication***).

Finally, one of our users will share his research conducted with PRIMO. He used this technology in order to structure and functionalize hydrogels (***microstructuration*** combined with ***micropatterning***) paving the way for 3D cell culture onto controlled, reproducible soft substrates[(2)]. Visit www.alveolelab.com for more information.

Speakers
Aurélien Pasturel, University of Bordeaux, CNRS, Alvéole
Pierre-Olivier Strale, Senior Scientist, Alvéole