

μ FAB-3D

Open 3D-microfabrication platform for research applications

Surface structuration
Metamaterials

Microfluidics
Scaffolds for cell culture

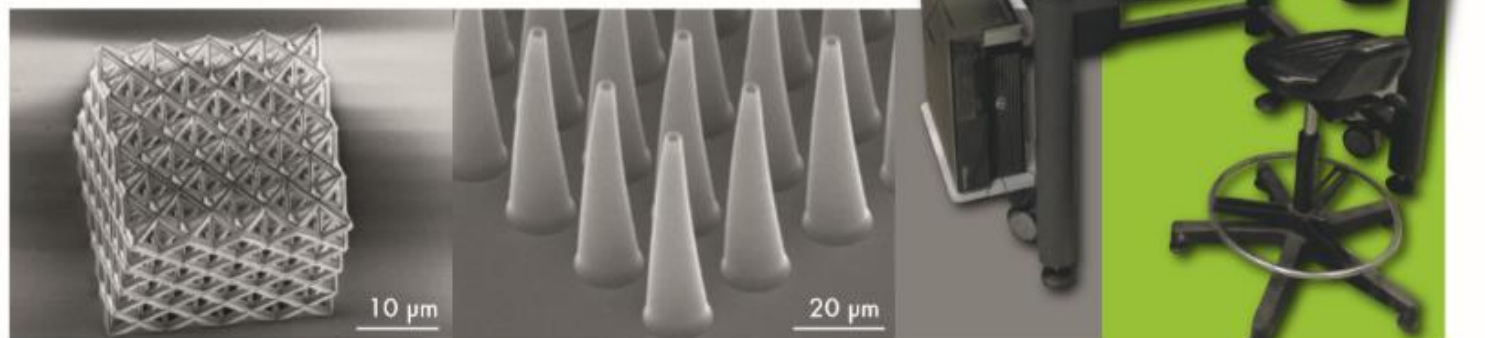
μ FAB-3D is a 3D-printing-machine, based on two-photon-polymerization (TPP) direct laser writing, compatible with a wide range of materials including biomaterials. Our system can help you to produce any 3D shapes with unprecedented complexity at sub-micron resolution.

Key features

- High writing precision and resolution (down to 0.2 μ m)
- Adjustable writing resolution for high-speed writing
- Compatible with any CAD models and files
- Compatible with biomaterials (collagen...), biocompatible materials as well as a wide range of polymers
- Compatible with sterile and clean room environments

Key benefits

- New TPP slicing tool
- High writing speed, even for complex 3D structures
- No shape constraints on 3D micro-parts
- Free design of 3D biocompatible scaffold
- Technology well suited for microfluidics, metamaterials, cell culture, microrobotics, micromechanics, tissue engineering or any microfabrication ideas you could have.



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Specifications

Microfabrication system

Writing resolution, in the plane (XY) (voxel diameter)	Adjustable from 0.2 to 3 microns
Writing resolution, vertically (Z) (voxel height)	Adjustable from 0.6 to 10 microns
XYZ high-resolution writing-range	100 to 300 microns
Stitching replication area	100 x 75 mm ²
Surface roughness	Better than 20nm
Writing speed	100μm/s at high resolution - 5mm/s at lower resolution

3D Software package

PC and flat screen	With Win10, 64bits
Simpoly-software	Slicing and laser 3D-path optimization dedicated to TPP technology
Lithos-software	Machine control, replication, autofocus and custom plugins for complex parts

Options and Accessories

- > Multiple-sample holder adapted to customer request
- > Laser specifications :
 - 10 or 100kHz repetition rate
 - Addressable wavelengths : 532nm or 1064nm
- > Fit to all commercial inverted microscopes :
 - Small footprint laser module (250x160x140mm³)
- > Anti-vibration bench
- > Supercritical CO₂ dryer for polymer micro-objects
- > Materials
 - polymer resists (acrylates,...)
 - bio-compatible resists (ORMOCOMP, PEG-DA,...)
 - bio-material (collagen,...)