

Patent title:	Micro-manipulator and method for fabrication of said micro-manipulator (Micro-manipolatore e metodo per la realizzazione di tale micro-manipolatore)
FBK center:	CMM
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Application number(s):	IT Patent Application No. 102019000003941 — priority date 2019-03-19
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Proprietor(s):	Fondazione Bruno Kessler (Bruno Kessler Foundation)
IP status:	Patent pending. Available for license or assignment
Patent family:	—
Application(s):	Mini-invasive surgery, Biomedical
Keyword(s):	Microgripper, Apparatus for the manipulation of samples, MEMS
Abstract:	A device and a fabrication method is proposed to obtain a micro-scale platform for the manipulation of cells and tissues and for assembly applications. The platform is monolithic, being fabricated on a single chip using micro electro mechanics (MEMS,) and includes one or more grippers, and one or more sample stages that can be moved along the X and Y axes and can rotate along the Z axis. The actuation is performed for example using capacitive combdrives. This platform can be scaled to operate in a wide range down to sub-micron resolution. The platform can be combined with the conjugate surface flexure hinge (CSFH) patented design to enhance its mechanical performance.