



## TECHNOLOGY

# Fabrication and Integration of Polymeric BioMEMS

## OVERVIEW

A variety of methods are used to fabricate microfluidic devices. Channels can be micromachined into silicon using traditional microelectronic techniques. However, glass and silicon processing are time consuming and expensive often require the use of hazardous materials.

The present invention provides a micro-electro-mechanical device having a substrate, a patterned microchannel on the substrate and an encapsulation membrane covering the microchannel. The encapsulation membrane is reversibly attachable and separable relative to the patterned structure.

The device is constructed using biomolecular engineering and nano-biotechnology biofabrication through the use of materials such as Chitosan (a bio compatible natural polymer), and by processes employing Tyrosinase-catalyzed Macromolecular Assembly, and Transglutaminase-catalyzed Macromolecular Assembly.

A host of patent applications are pending.

For licensing information contact 301 405-3947 or [otc@umd.edu](mailto:otc@umd.edu).

## CONTACT INFO

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## Additional Information

### INSTITUTION

University of Maryland, College Park

### PATENT STATUS

Patent(s) pending

### LICENSE STATUS

Contact OTC for licensing information

### CATEGORIES

- Biomaterials
- Nanotechnology + Nanoparticles + Nanomaterials
- Microfluidics

## EXTERNAL RESOURCES

- [US Patent 7,375,404](#)

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