

Cellular and Molecular Bio MEMS Lab (Pr. Fan)

■ Cell-Resolution MRI μ Systems

■ Implantable & Flexible CMOS Sensors

The flexible KP-CMOS piezoresistive and flow sensors facilitate 4-axis tube with 100 μ m² area film packaging inside a Mini-tubule.

Photo of 0.18 μ m mixed-mode CMOS sensors

Measured carrier and signal spectrum of the FM/DD transmitter (using MICS band)

■ Biochips Generators

Generator

DNA solid-phase synthesis cycle

Amplify 100x in 10min size of 50 μ m² generated by the microfluidics

NSC & ENS
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& ENS

UV-Vis absorption spectra Cyt-CF2 Insulated curve Microarray Fluorescence Analysis

■ Integrated Cells Interaction Platforms

1.8 μ m CMOS 1 μ m Si & Paralene sandwich becomes flexible and transparent

Induced embryonic stem cells differentiation into endothelial cells

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e-mail:

Advanced LIGA Lab (Pr. Fu)

■ UV LIGA

High fidelity UV LIGA mold with taper de-molding angle

Innovative micro needle array process with full water scale (6 μ m)

Needles on flexible membrane for trans-dermal drug delivery

High aspect ratio structures

3D UV LIGA - Micro structures mimic the intestines.

Single step 3D UV lithography

Embedded polymer channel without bonding process

■ Laser Interference lithography

Compact laser interference lithography system for the fabrication of large area periodical nano structures

Large area 1D sub-wavelength nano gratings for the next generation LCD display (pitch 144~240 nm)

2D periodic nano patterns on the LED sapphire substrates for tuning the extracted light efficiency and profile

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