

Microfluidically Accessible Nanoholes molded in a PDMS surface for Cellular Analysis



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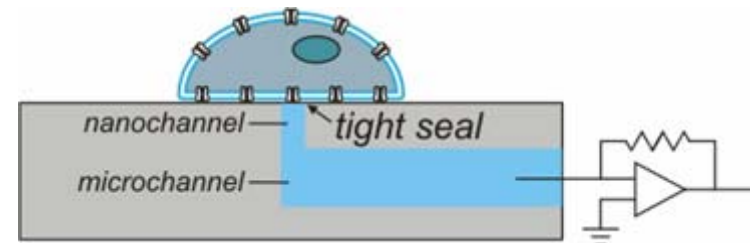
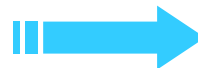
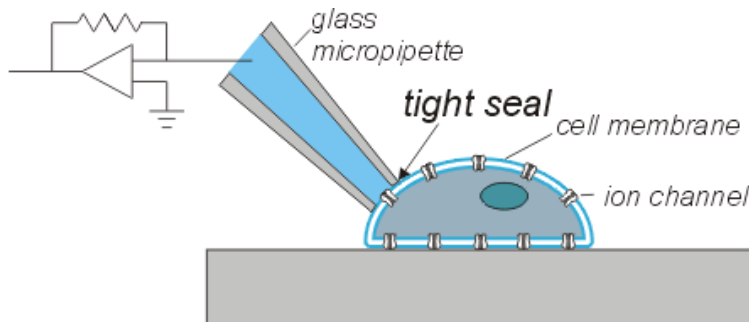


Bert Sakmann

The Nobel Prize in Physiology or Medicine 1991

"for their discoveries concerning the function of single ion channels in cells"

Developing a microdevice that allows for **parallel biochemical stimulation** and/or **electrophysiological recordings**



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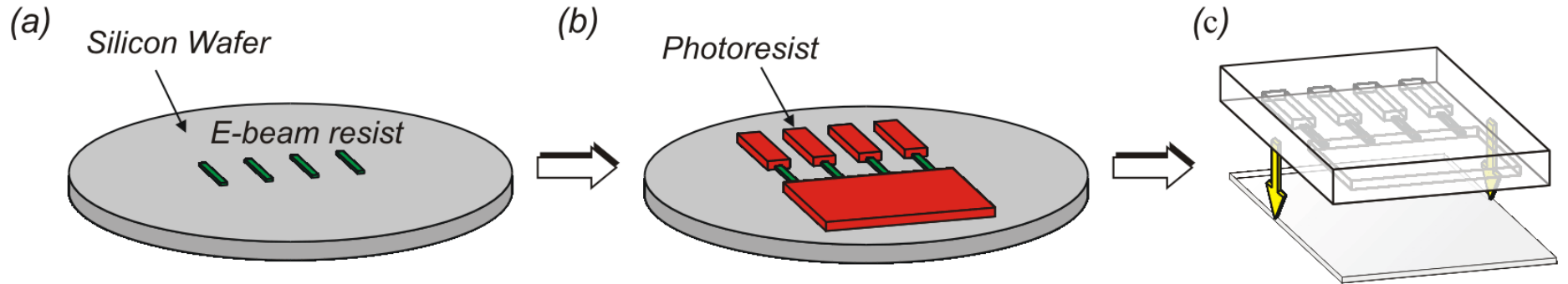


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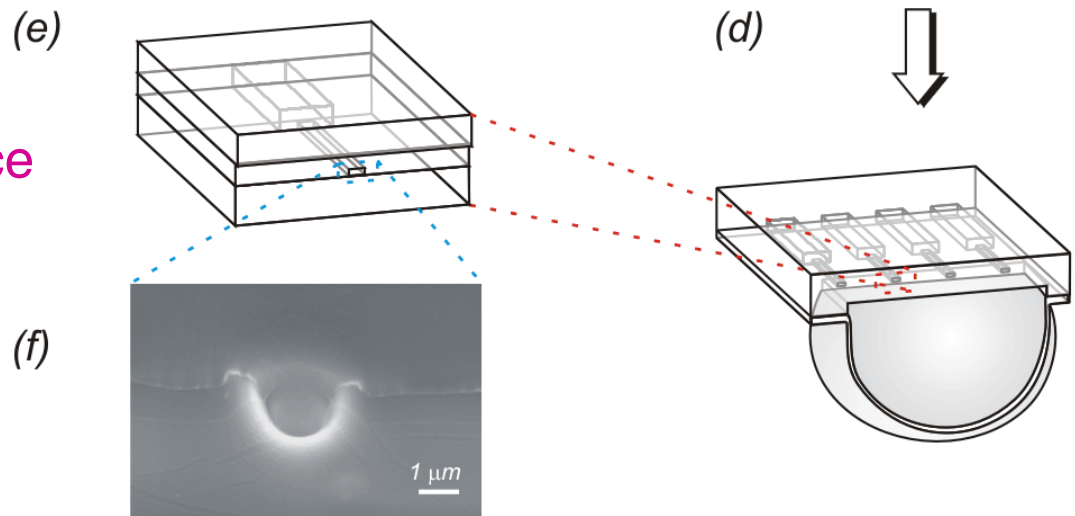
Research Approaches – Inflatable Molding Techniques

1. LITHOGRAPHY

2. PDMS REPLICATION AND ASSEMBLY



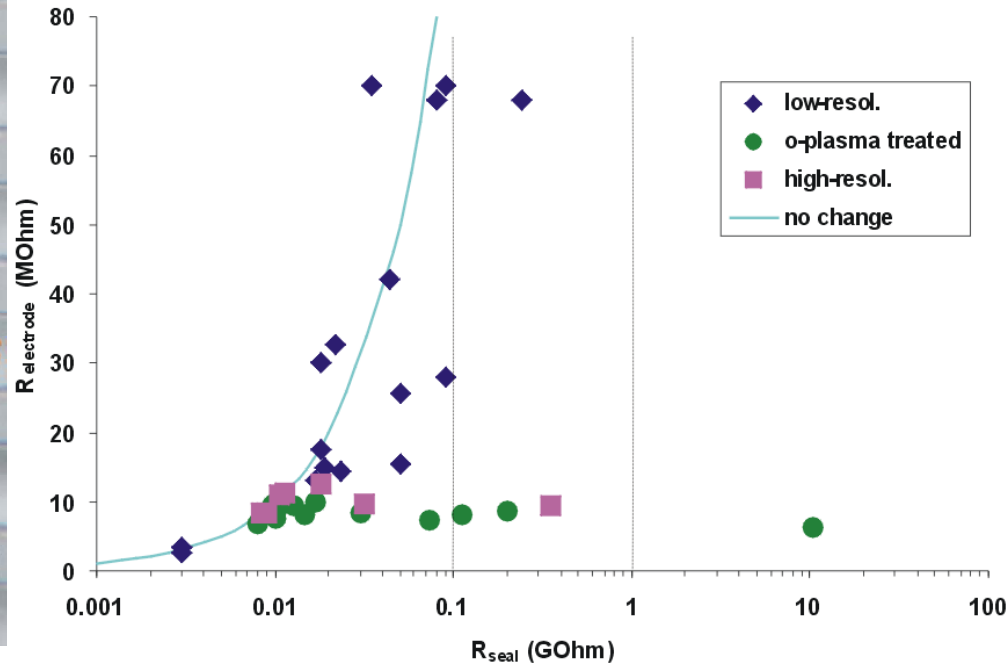
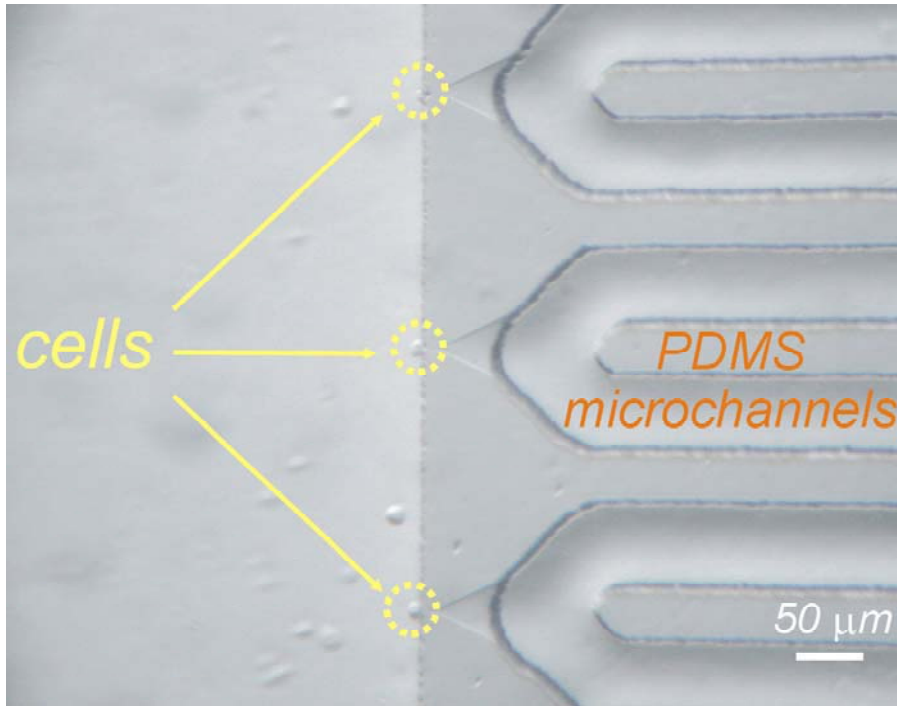
3. Inflation and solidification of PDMS



- openings on a planar surface
- microfluidically accessible
- inexpensive to make



Accomplishments



- Cells can be driven to the openings of the nanochannels

- High resistance can be achieved, albeit in low yield

