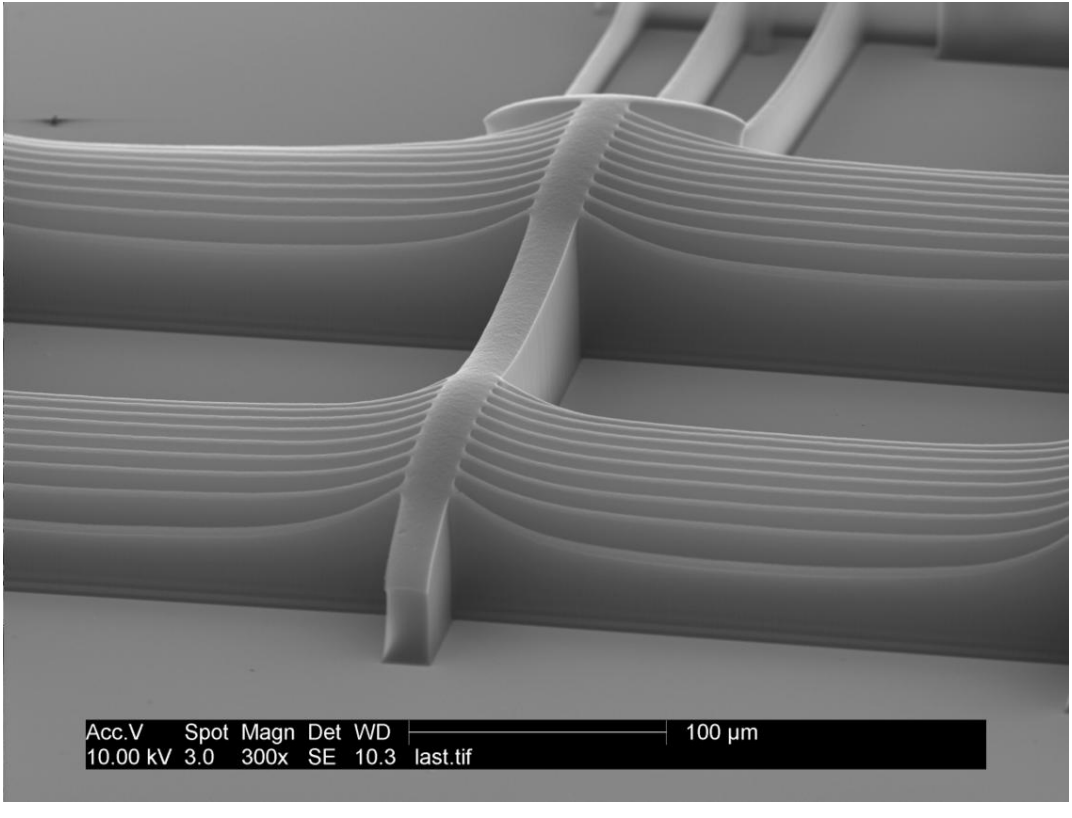
2010 Calendar

BYU CMR

BRIGHAM YOUNG UNIVERSITY
COMPLIANT MECHANISMS RESEARCH

Featuring Scanning Electron Micrographs
from the Brigham Young University
Compliant Micromechanisms Research Group



The wilted beams of a carbon nanotube MEMS structure reveal that the iron layer on which they were grown was too thin.

January 2010

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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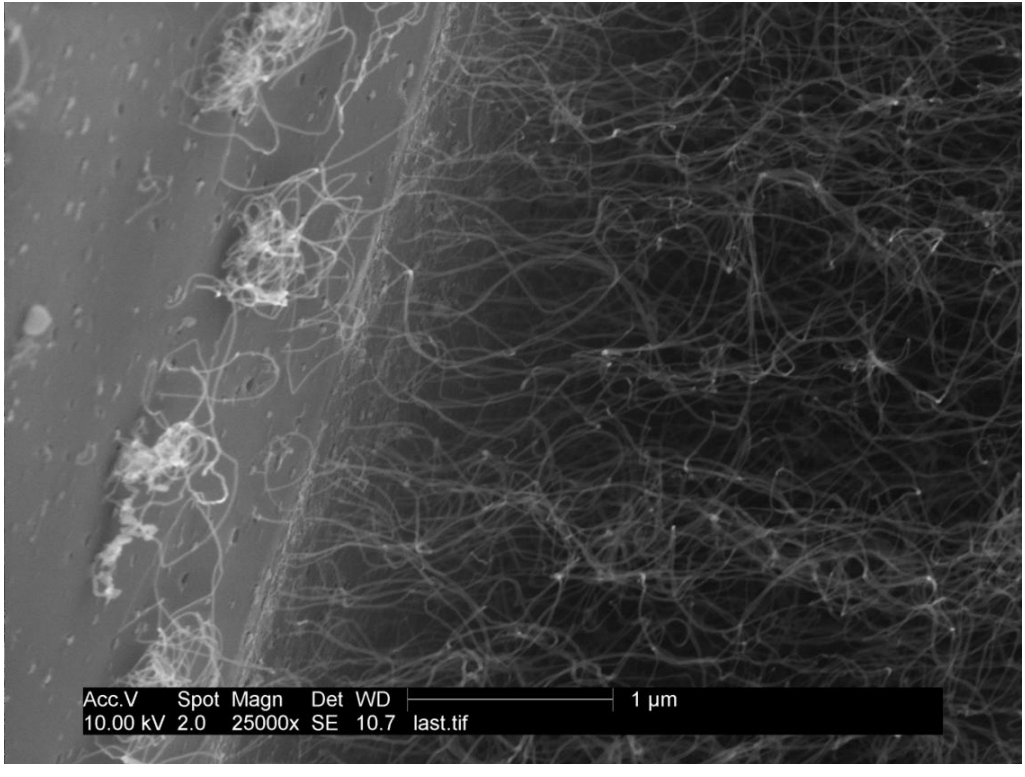

A carbon nanotube forest shown at high magnification. The large amount of surface area inside makes it possible to vapor-deposit material (such as silicon) to turn the mostly-empty forests into strong, solid MEMS structures.

February 2010

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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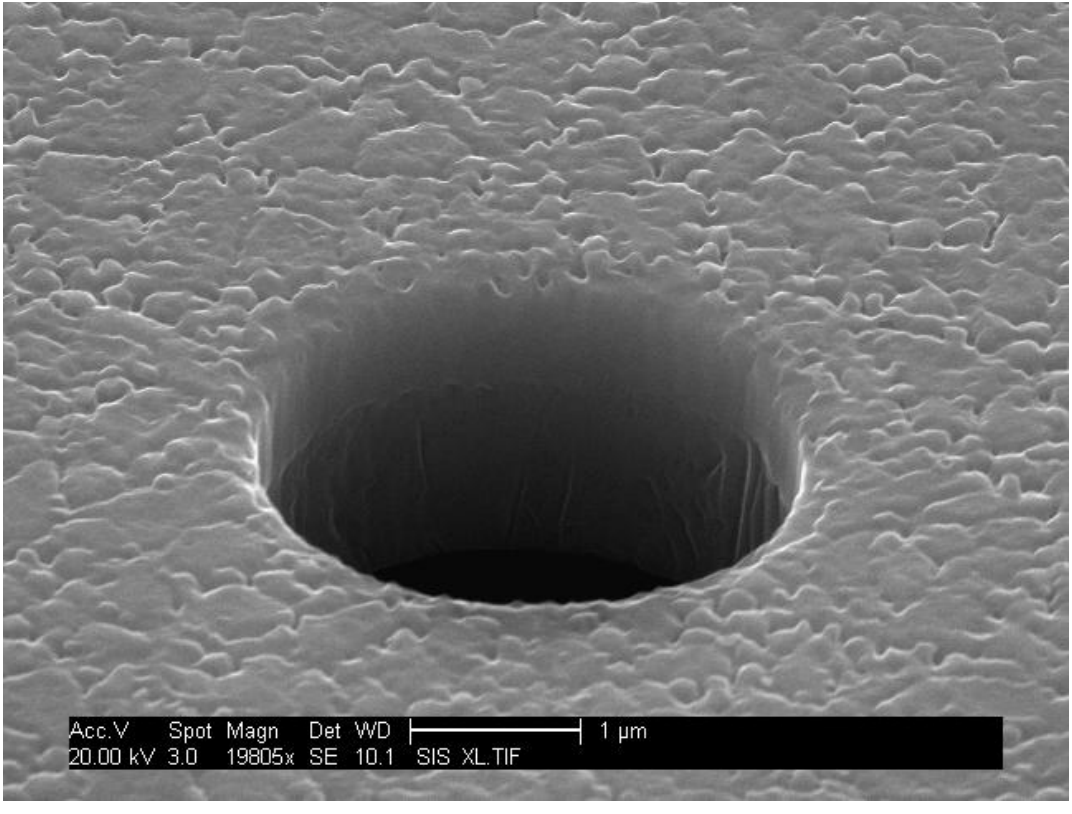

A through hole in a layer of polysilicon.

March

2010

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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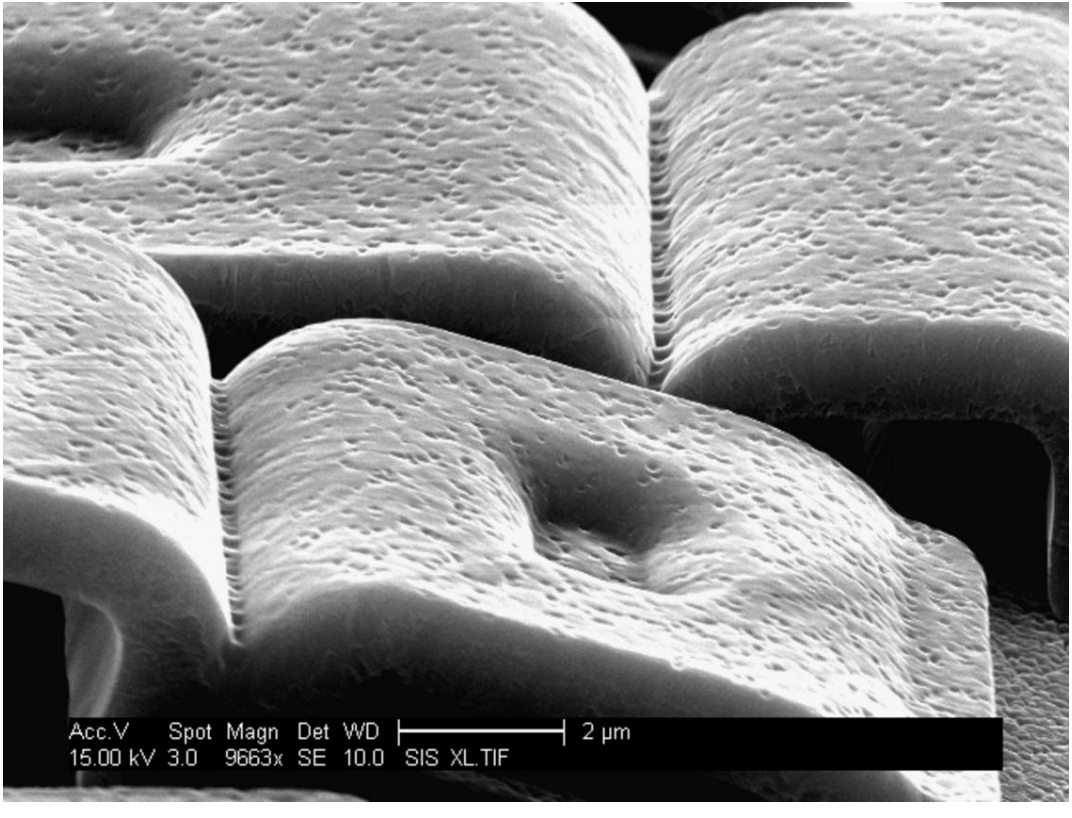

Part of a hinge showing the conformity of the second polysilicon layer.

April

2010

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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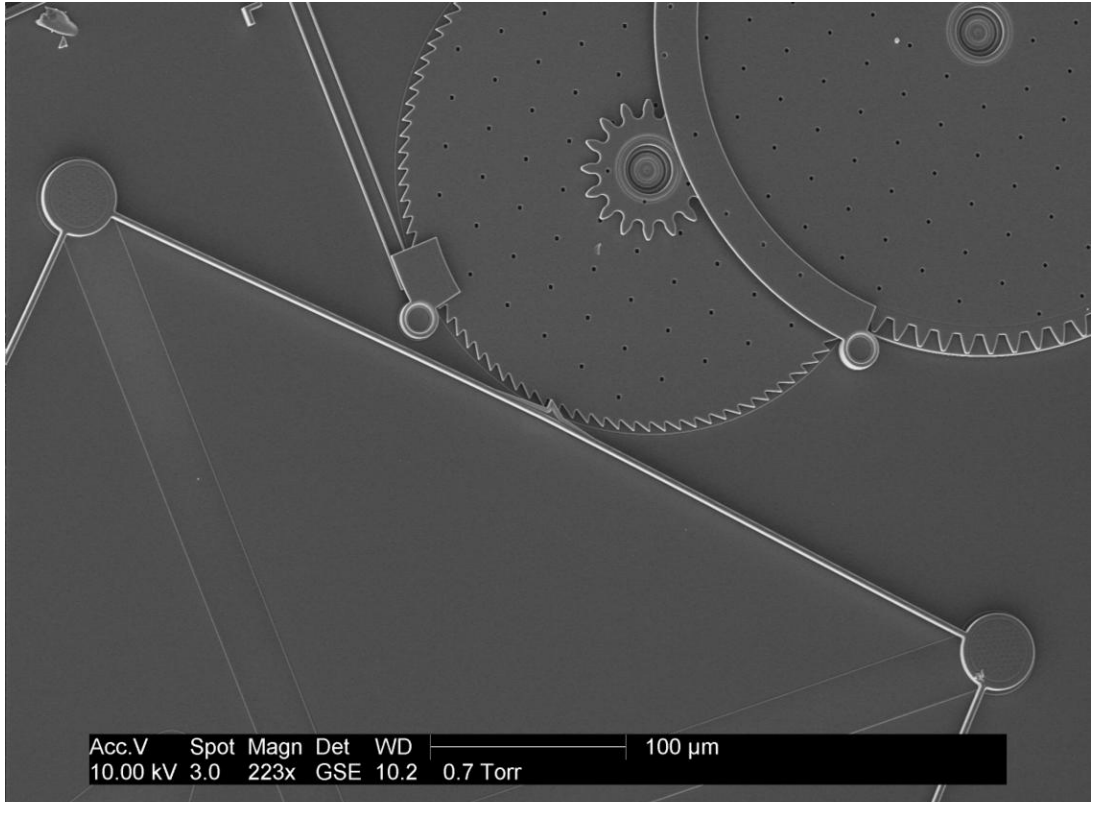

This long, thin beam uses piezoresistance to measure rotation of the gears.

May 2010

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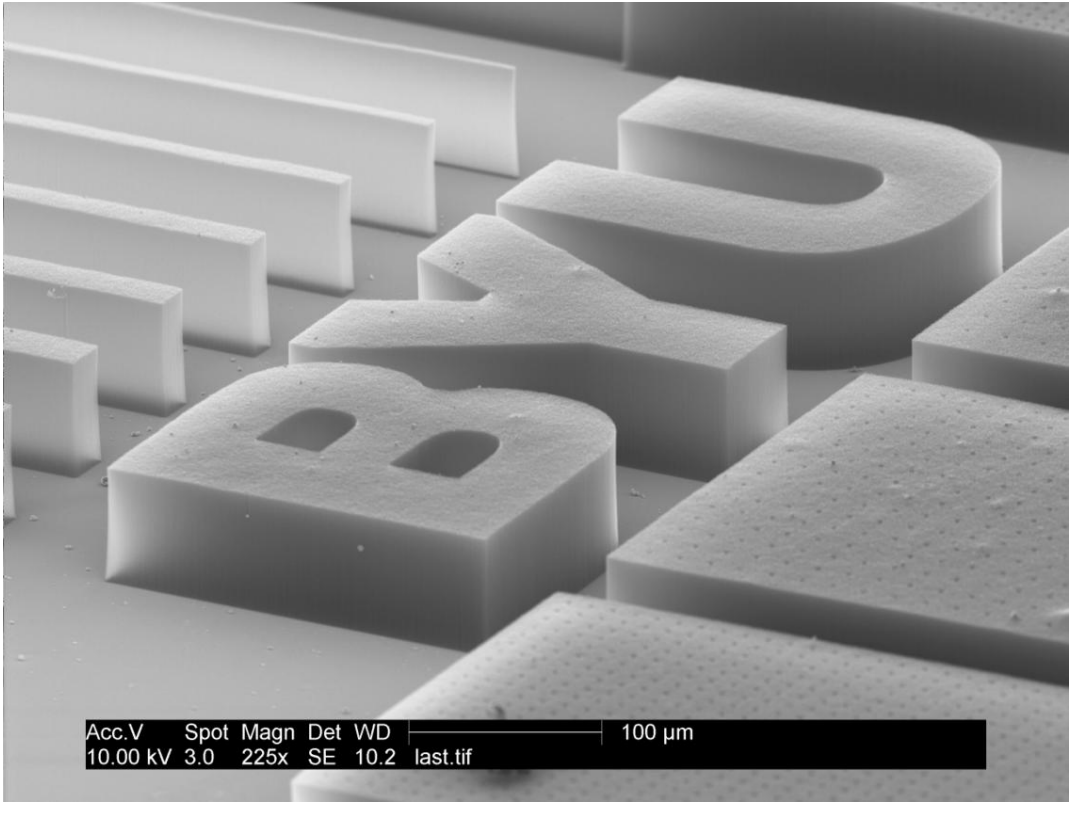

Carbon nanotubes grown in patterned arrays result in high aspect ratio structures.

June

2010

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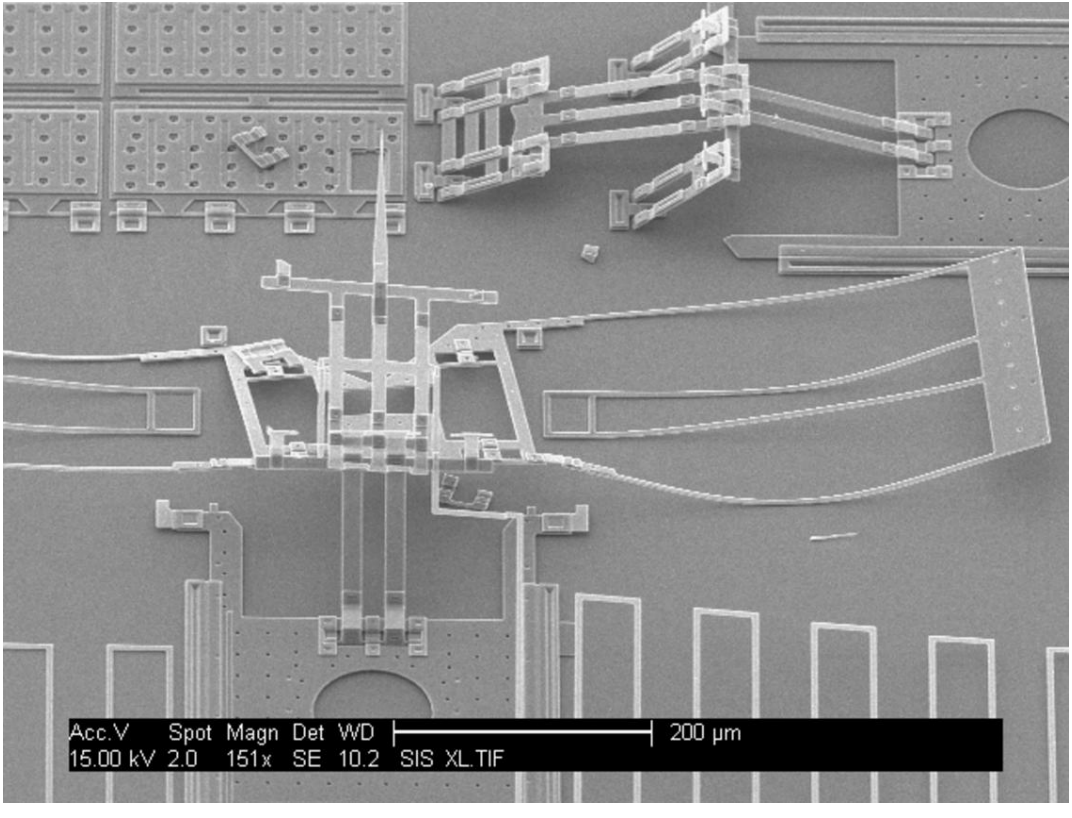

A broken nanoinjector.

July

2010

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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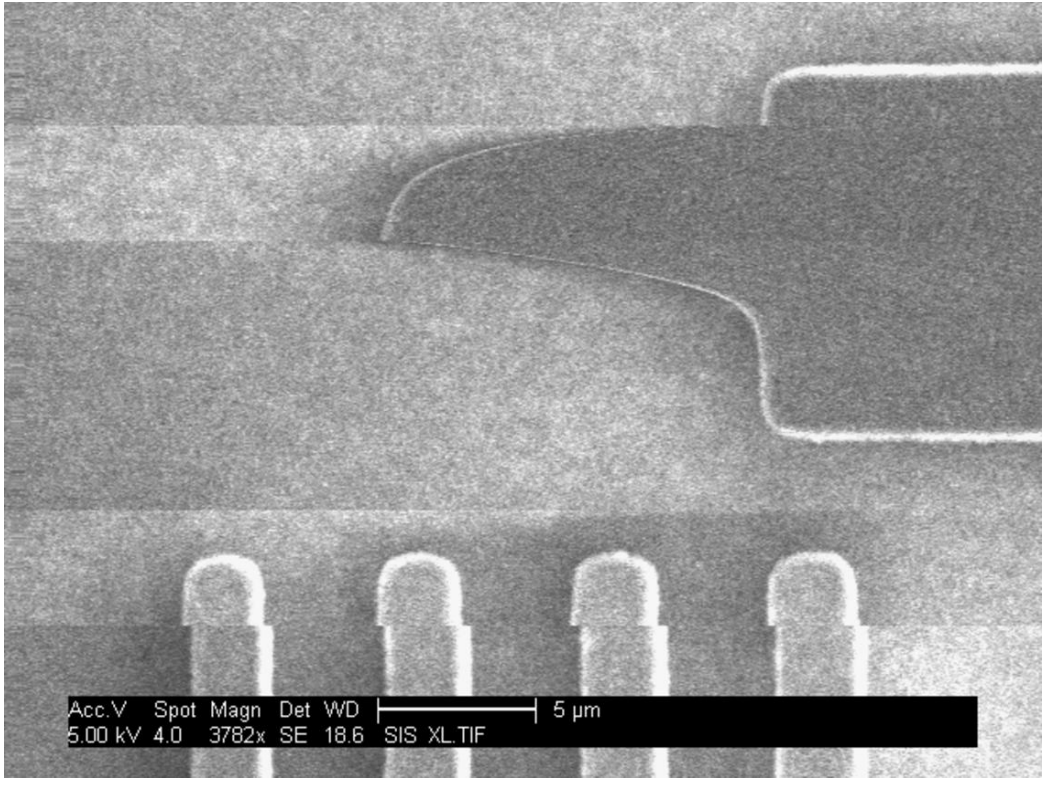

SEM image of a thermomechanical in-plane microactuator in motion. The path of the flat edge of the TIM traces out the exponential heating and cooling curves characteristic of a square wave input signal.

August

2010

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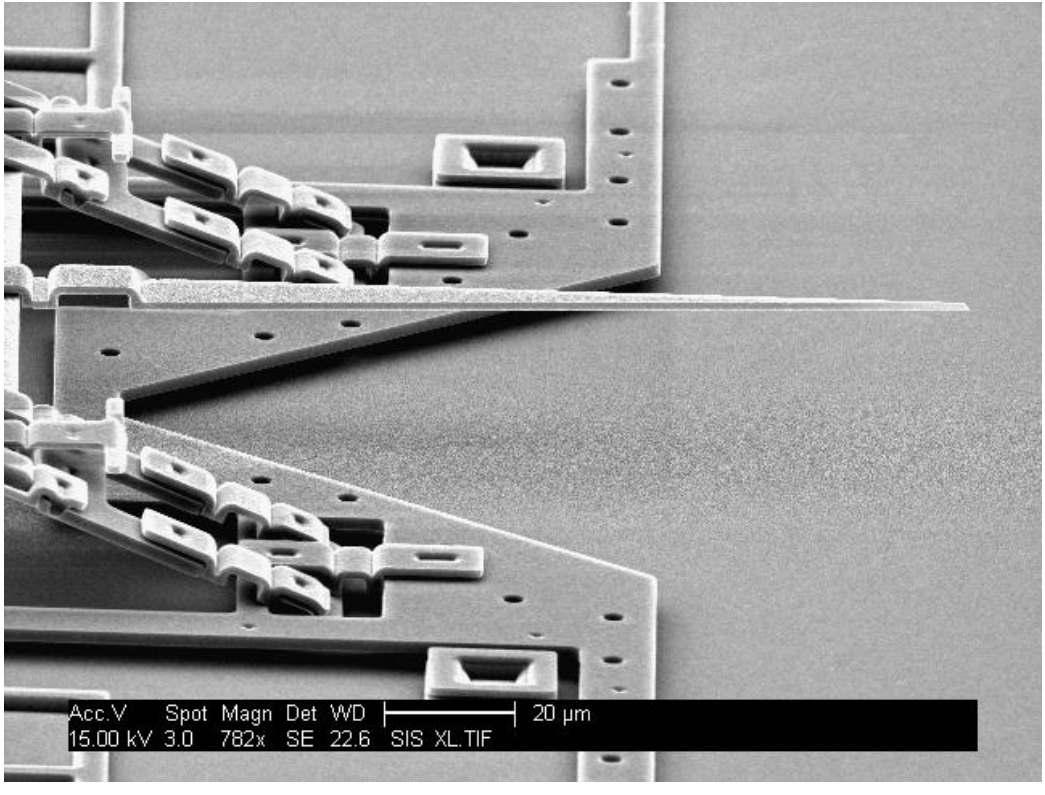

The lance on the nanoinjector used to inject individual cells with new DNA.

September 2010

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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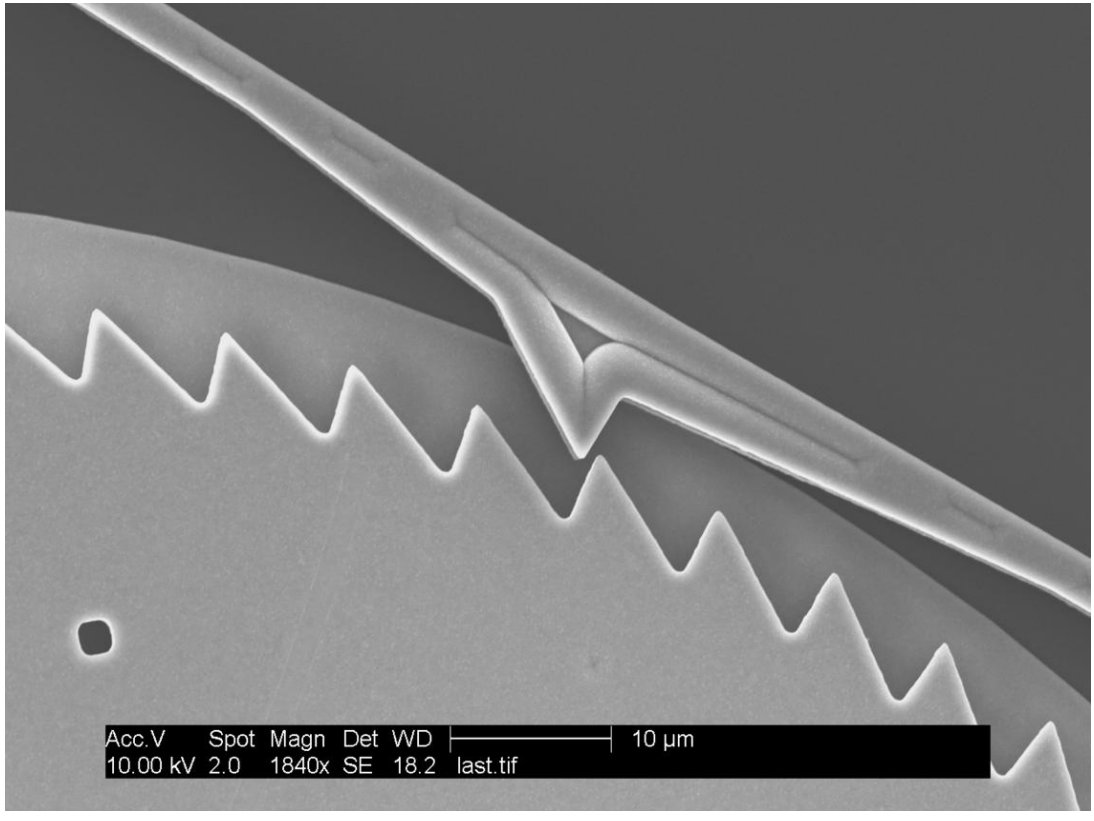

This tooth deflects a piezoresistive beam as the gear teeth rotate past, making it possible to count each of the passing ratchet teeth.

October

2010

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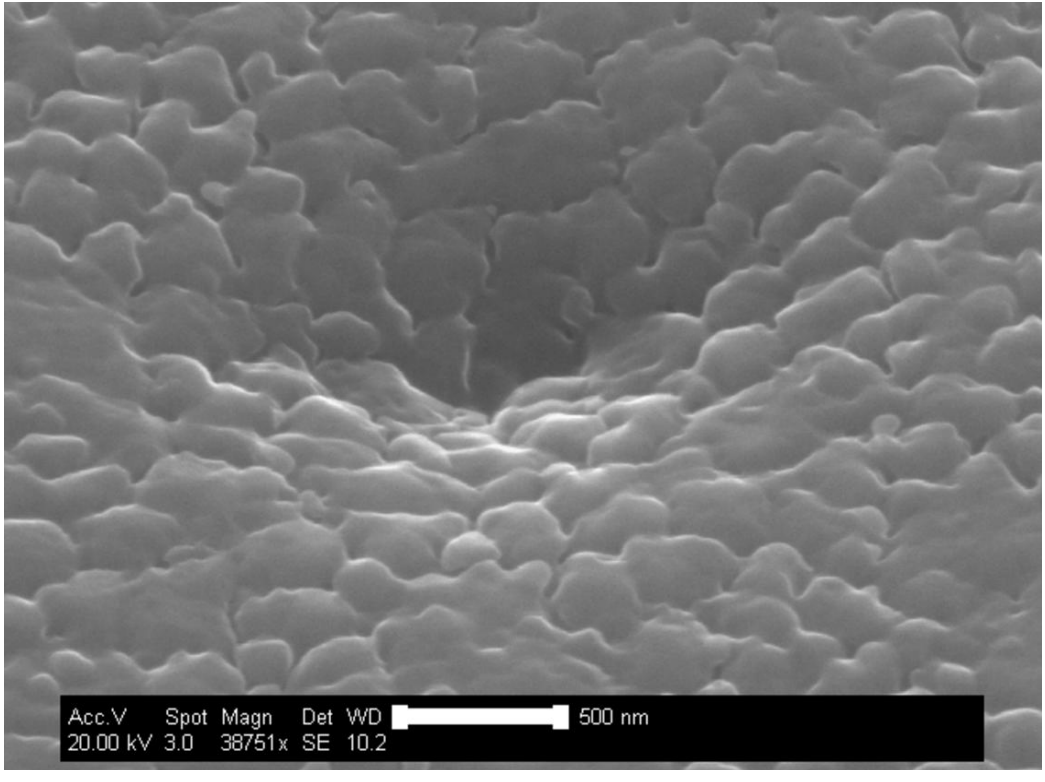

A dimple in a polysilicon layer.

November 2010

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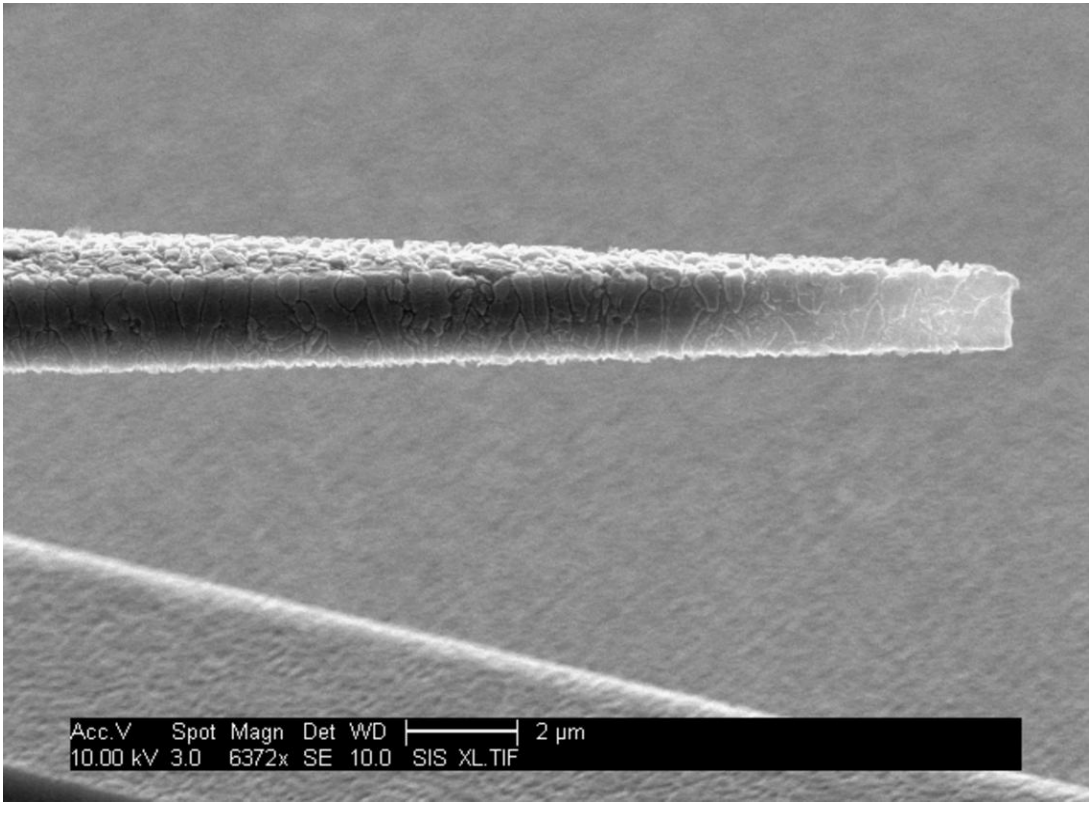

The lance on the nanoinjector, showing the roughness of the surface.

December 2010

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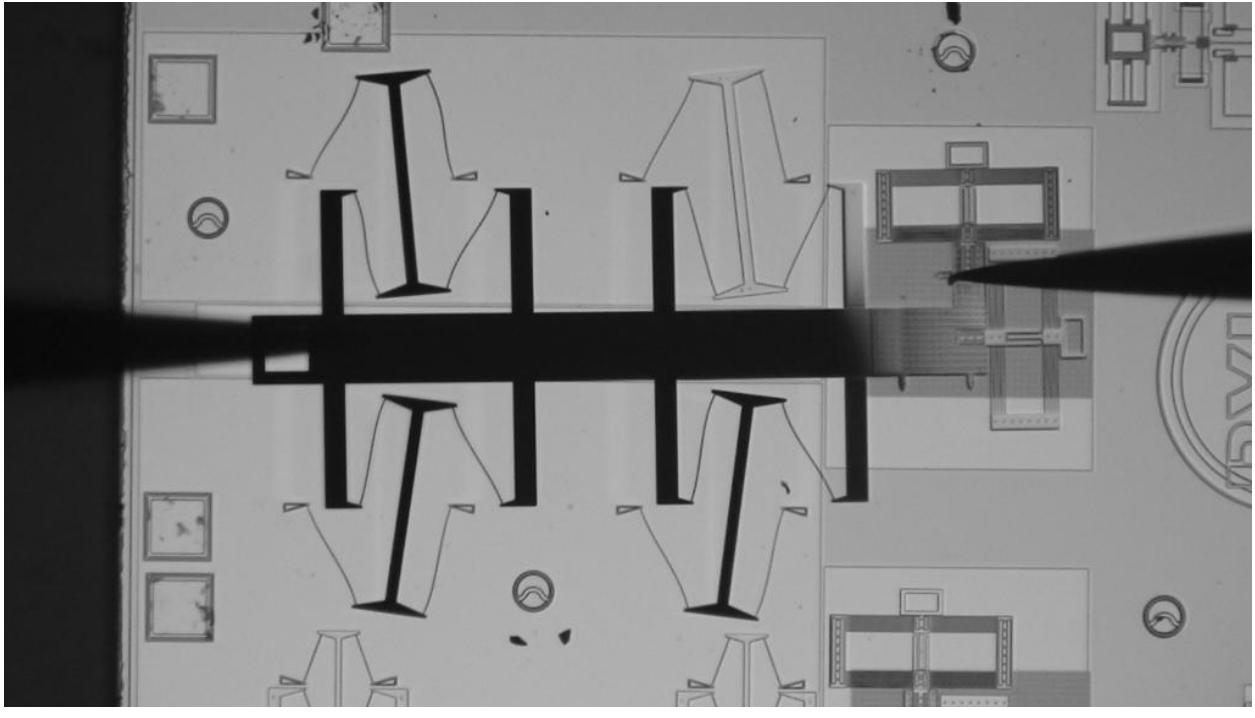

A long displacement mechanism dubbed the "X-bob". A series of compliant "Roberts" straight line mechanisms provide significant linear displacement due to compliant member deflection. This optical image shows the deflected position of the mechanism.

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