

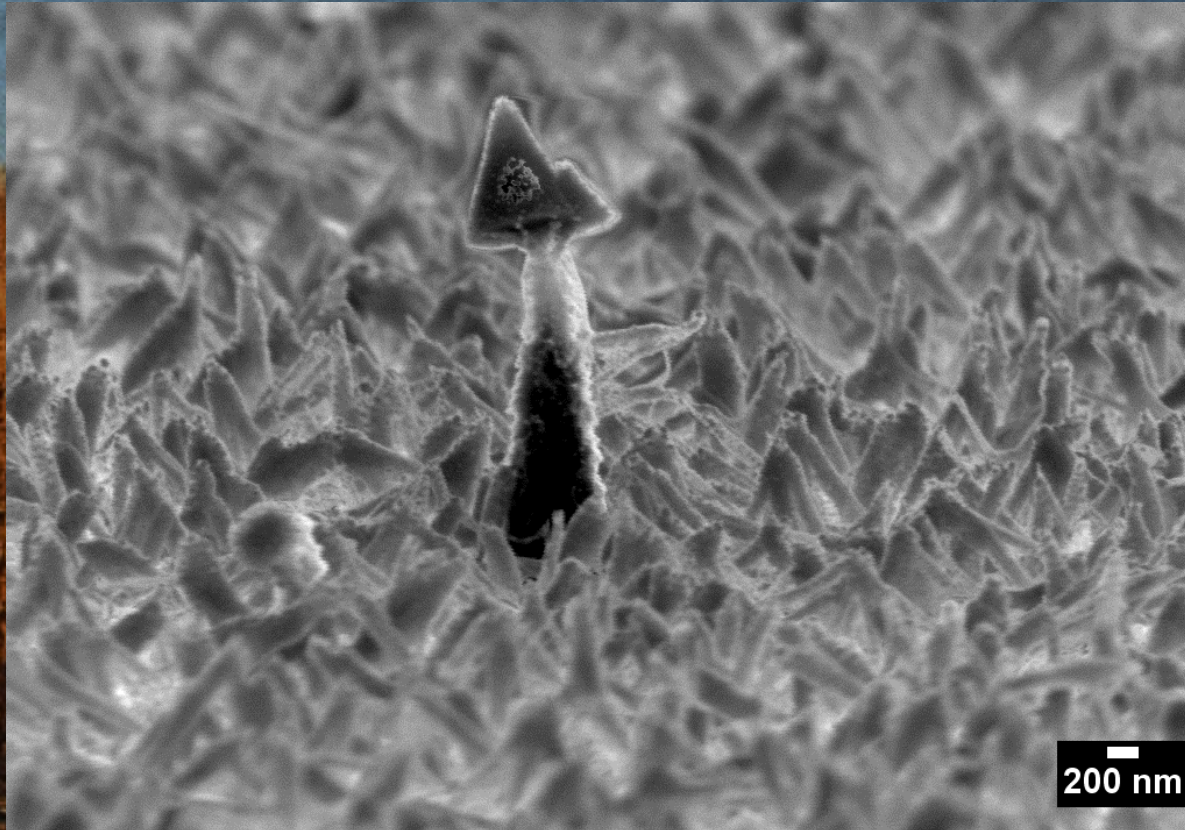
2016 Micro-Nano Graph Contest

1

"Nano Mushroom"

Description:

This nano mushroom formed due to self-masking during cryogenic etching of silicon. The non-mushroom part of the image is black silicon.



Submitted by: Randy Fechner
Affiliation: Karlsruhe Institute of Technology

Instrument: Zeiss Supra60VP
Magnification: 15000 X

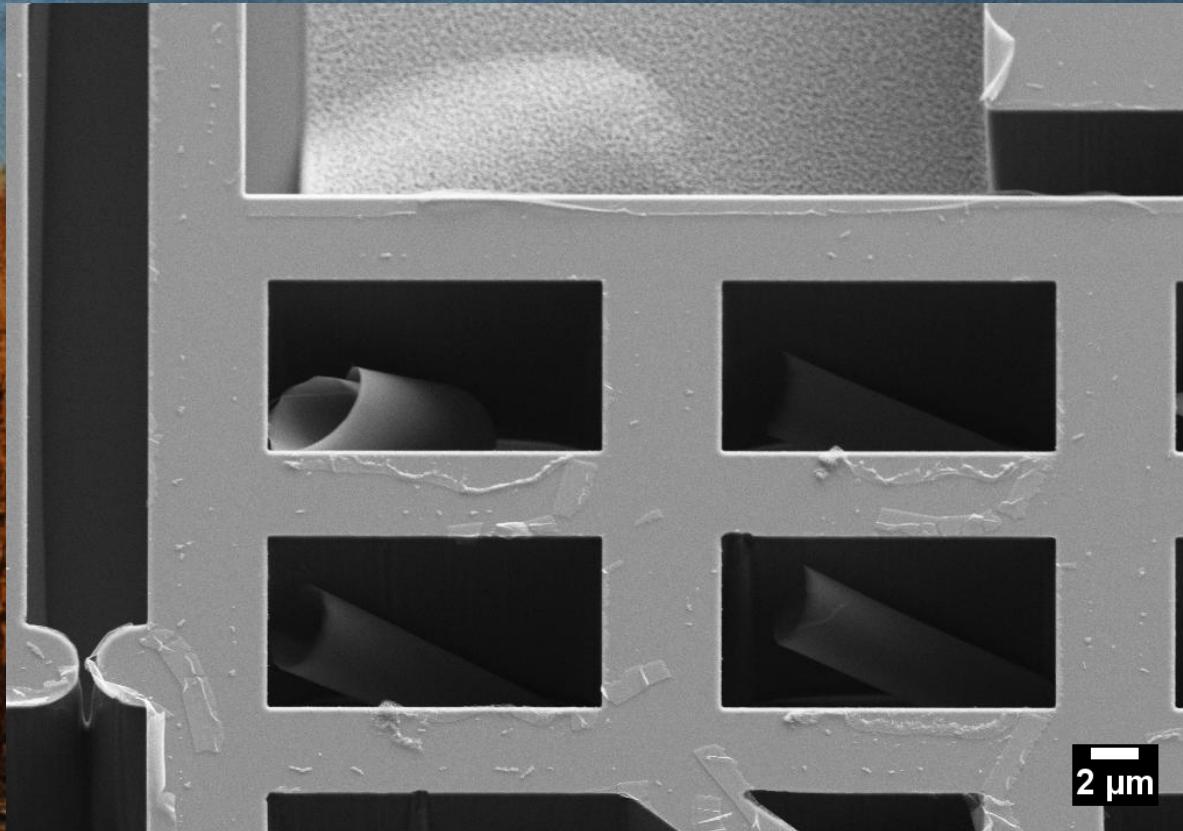
2016 Micro-Nano Graph Contest

2

"The Micro Scrolls"

Description:

A 100nm thick Ni-layer detached from the surface during an HF bath, rolled up and stayed inside the cavities.



Submitted by: Randy Fechner

Affiliation: Karlsruhe Institute of Technology

Instrument: Zeiss Supra60VP

Magnification: 2310 X

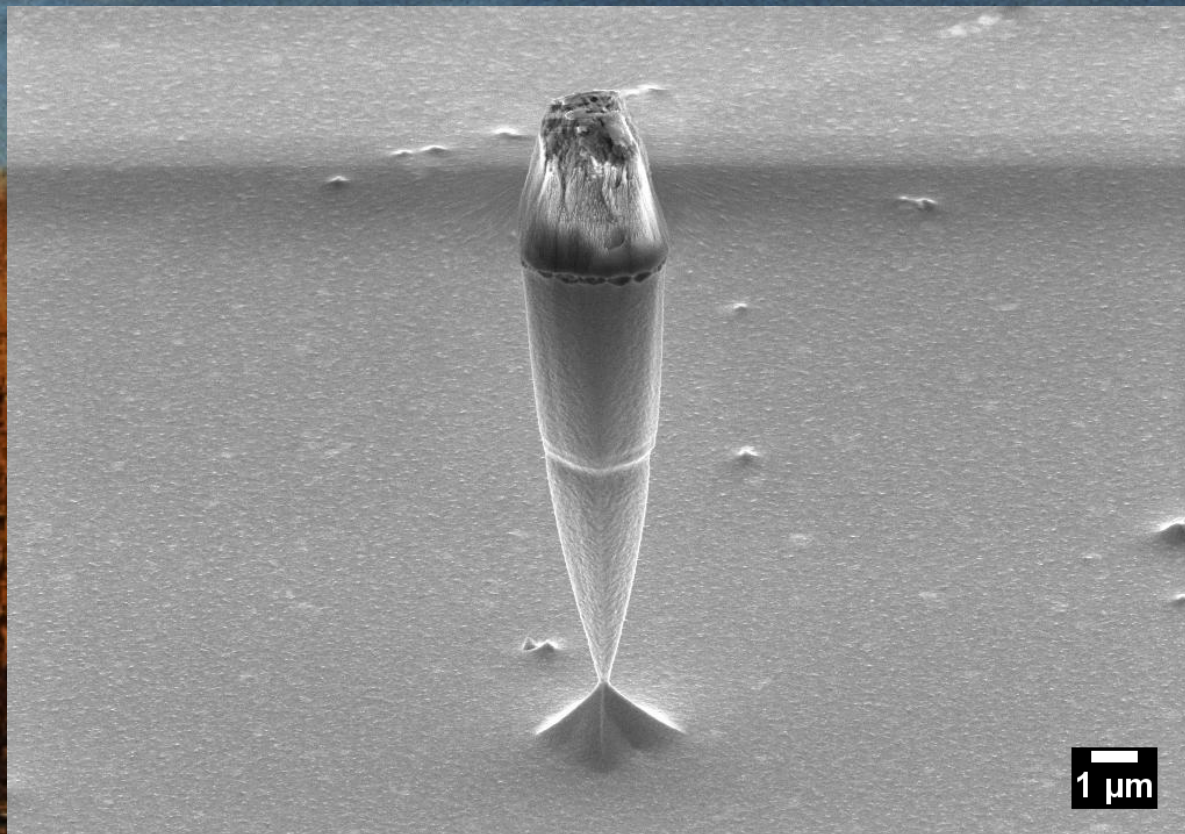
2016 Micro-Nano Graph ----- Contest -----

3

“Cigar”

Description:

This cigar-shaped pillar formed due to self-masking during cryogenic etching of silicon. The upper part is SiO_2 and the rest is Si.



Submitted by: Randy Fechner

Affiliation: Karlsruhe Institute of Technology

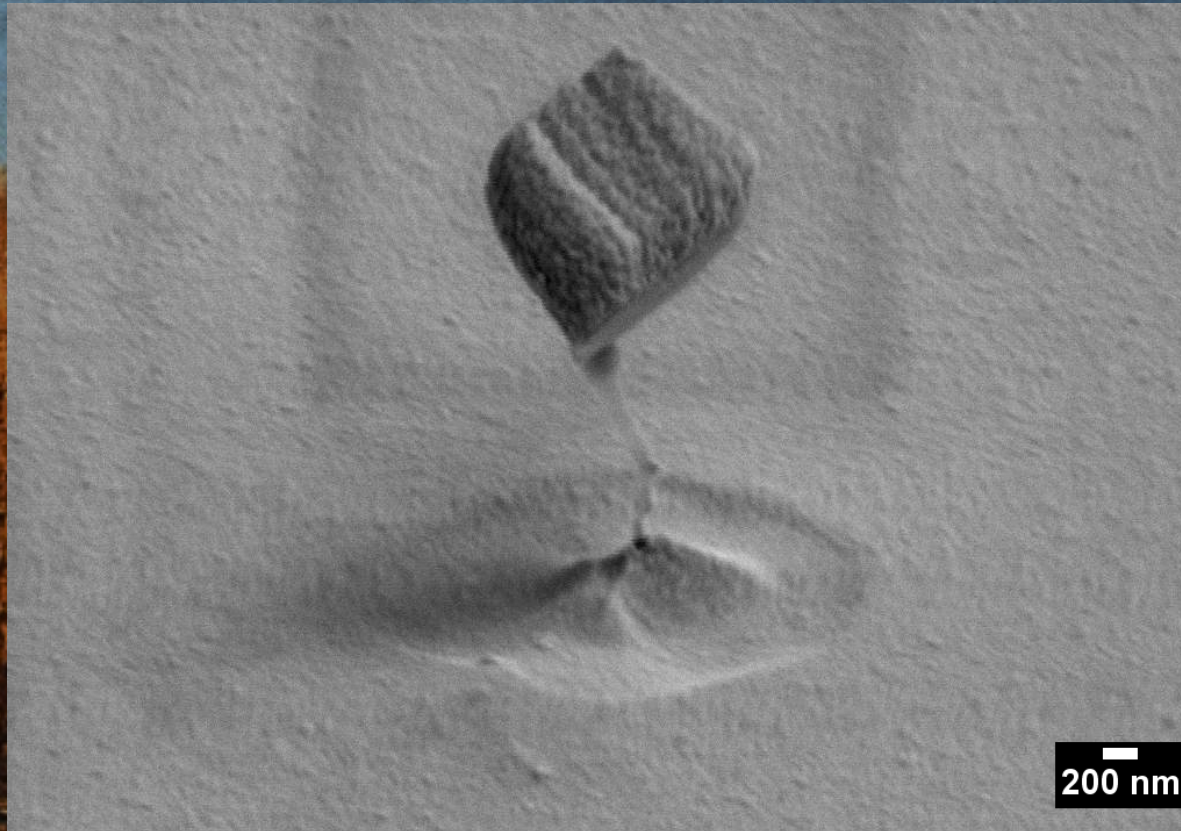
Instrument: Zeiss Supra60VP

Magnification: 4460 X

“Balancing Nano Cube”

Description:

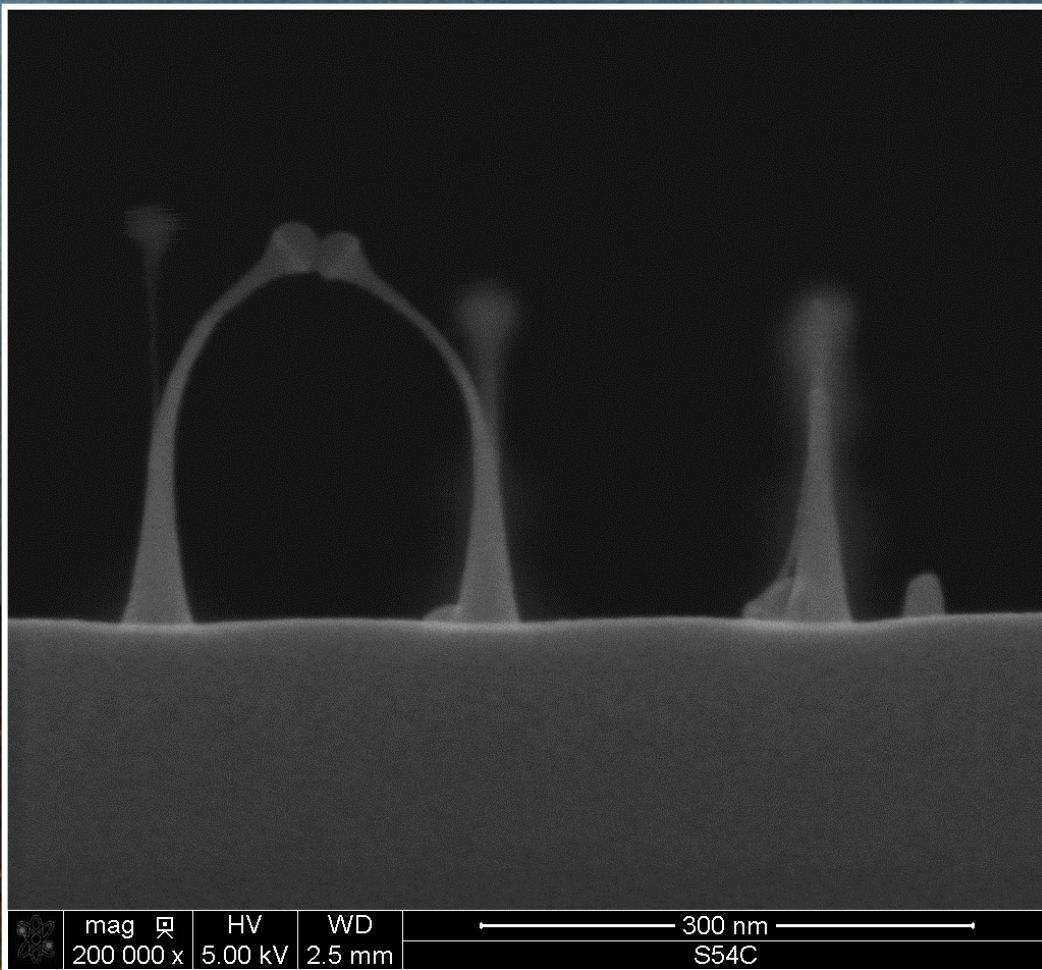
This nano cube formed due to self-masking during cryogenic etching of silicon and subsequent Ni-evaporation. The upper part is SiO_2 with some Ni on top. The rest is Si.



2016 Micro-Nano Graph Contest

5

"Nanowires in love1"



Description:

Silicon nanowires pillar etched with SiO₂ capping layer on top. Nanowires bent during the XSEM inspection due to charging. Silicon pillar length is 275nm and SiO₂ cap of \varnothing 30nm.



Submitted by: BT. Chan / E. Camerotto
Affiliation: imec / LAM

Instrument: Hitachi
Magnification: 200,000 X

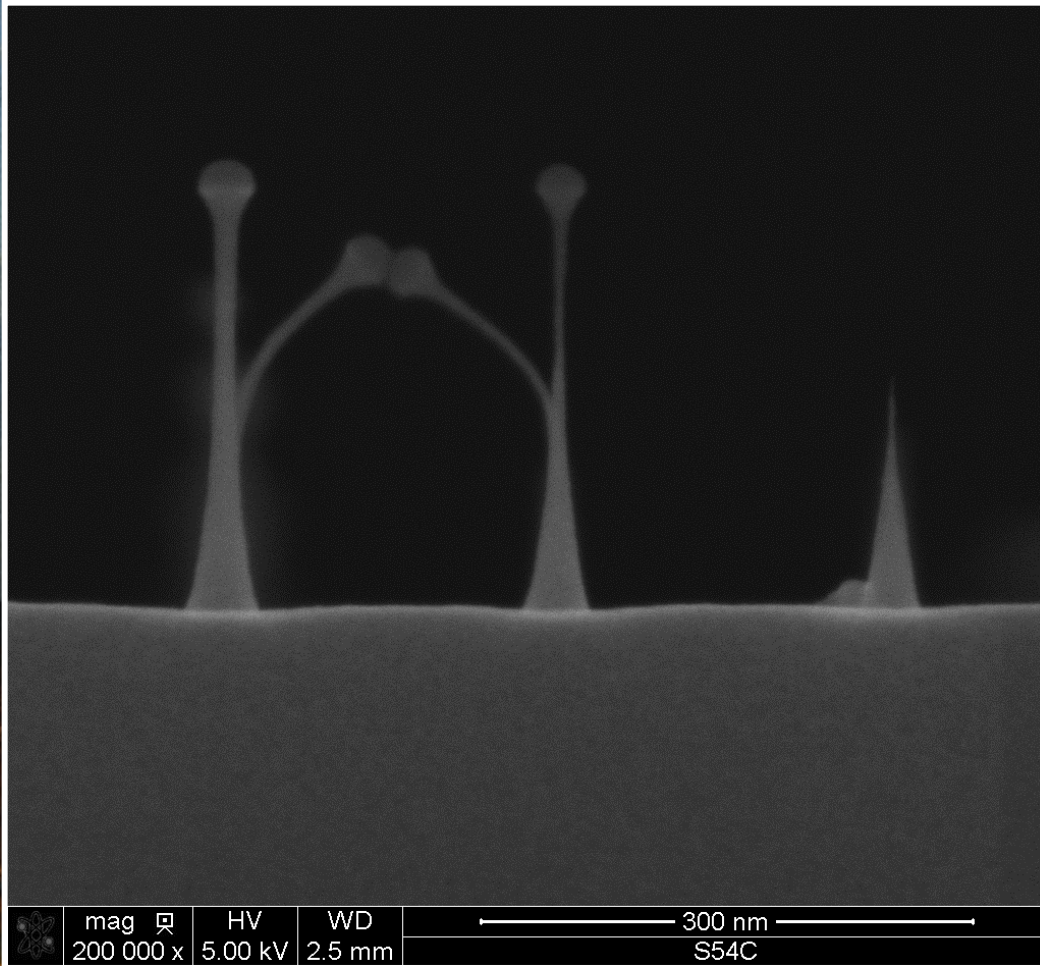
2016 Micro-Nano Graph Contest

6

"Nanowires in love2"

Description:

Silicon nanowires pillar etched with SiO_2 capping layer on top. Nanowires bent during the XSEM inspection due to charging. Silicon pillar length is 275nm and SiO_2 cap of \varnothing 30nm.



Submitted by: BT. Chan / E. Camerotto
Affiliation: imec / LAM

Instrument: Hitachi
Magnification: 200,000 X

**2016 Micro-Nano Graph
Contest**

7

"Canada Heron"

Description:

Portrait of an ancient heron made of HSQ residues. The picture of this legendary bird was captured just after an electrolithography season.



Submitted by: Bruno LEE SANG

Affiliation: Interdisciplinary Institute for Technological Innovation,
Sherbrooke

Instrument: Zeiss – LEO 1540XB

Magnification: 167 X

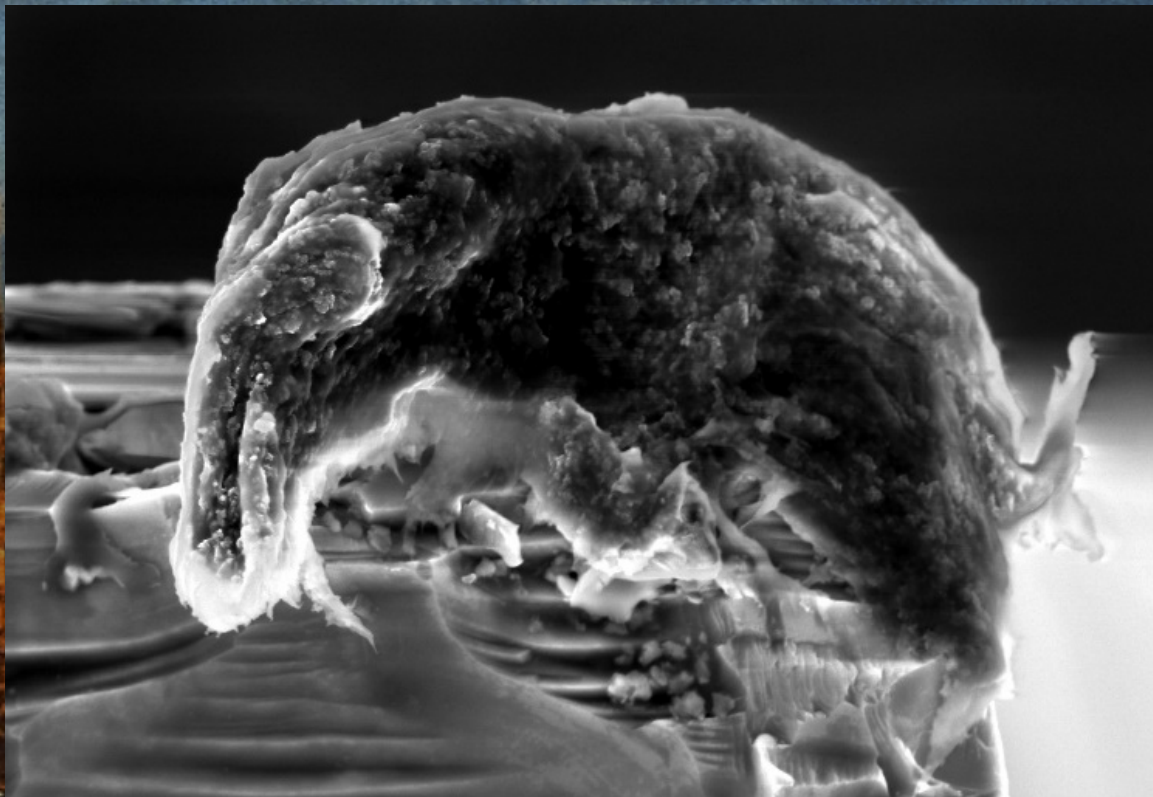
**2016 Micro-Nano Graph
Contest**

8

“Apocalyptic Rat”

Description:

Warning! A dark matter, probably glue residues, in the form of a micrometric rat is having a bite of the corner of my delicious silicium sample.



Submitted by: Bruno LEE SANG

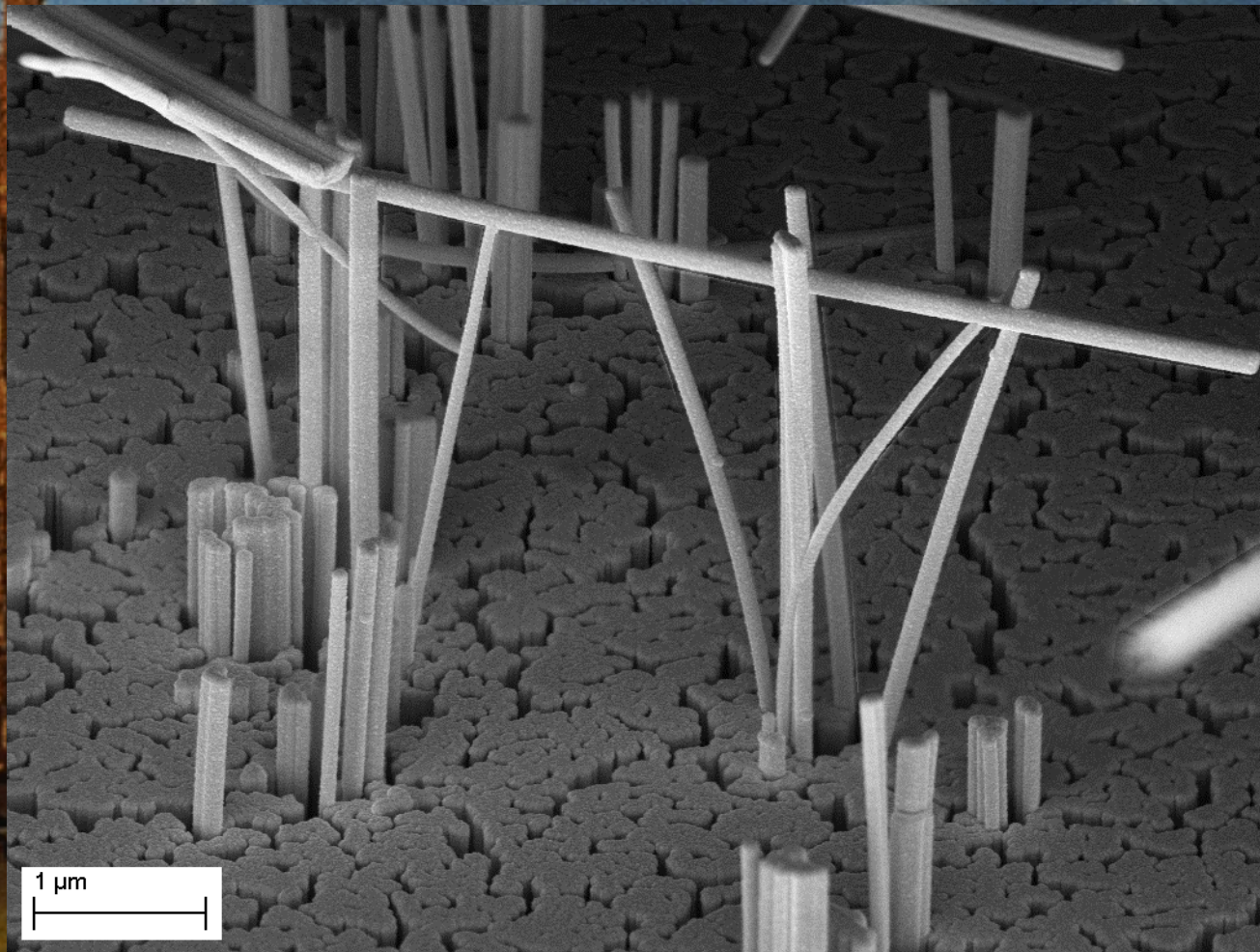
Instrument: Zeiss – LEO 1540XB

Affiliation: Interdisciplinary Institute for Technological Innovation,
Sherbrooke

Magnification: 7.04 KX

Description:

Silicon metal assisted chemical etching combined with Iridium atomic layer deposition. Resulting nanowires made of silicon organized themselves in a door like structure.



1 μm



Submitted by: Joan Vila-Comamala
Affiliation: ETH Zurich

Instrument: SEM Zeiss Supra VP55
Magnification: 50.00 kX

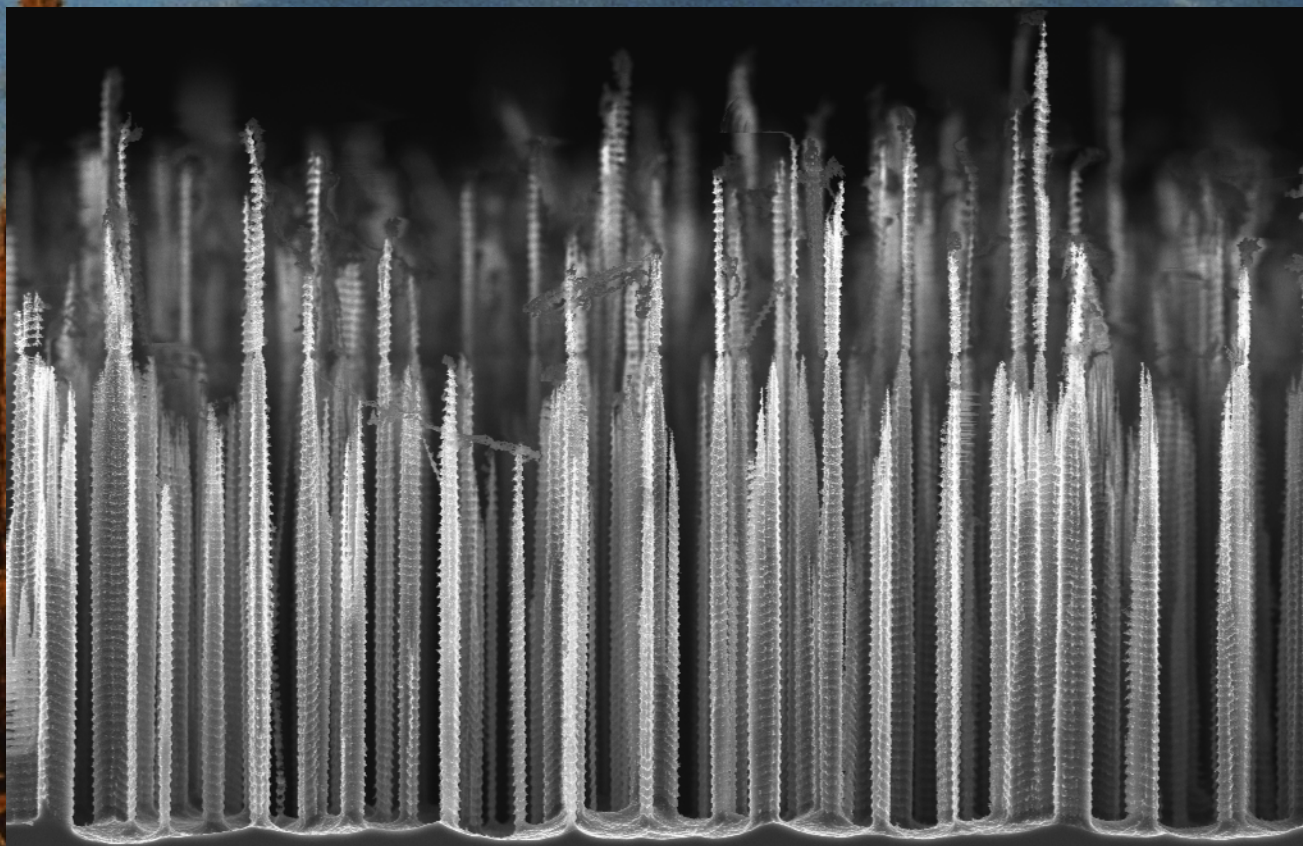
2016 Micro-Nano Graph Contest

10

"SiliconCity Skyline"

Description:

Silicon reactive ion etching using a faulty Chromium mask.



2 μm Mag = 9.00 K X EHT = 5.00 kV Stage at T = 0.0 ° Date :1 Jun 2016
WD = 3.5 mm Signal A = InLens Time :19:46:20



Submitted by: Joan Vila-Comamala
Affiliation: ETH Zurich

Instrument: SEM Zeiss Supra VP55
Magnification: 9.00 kX

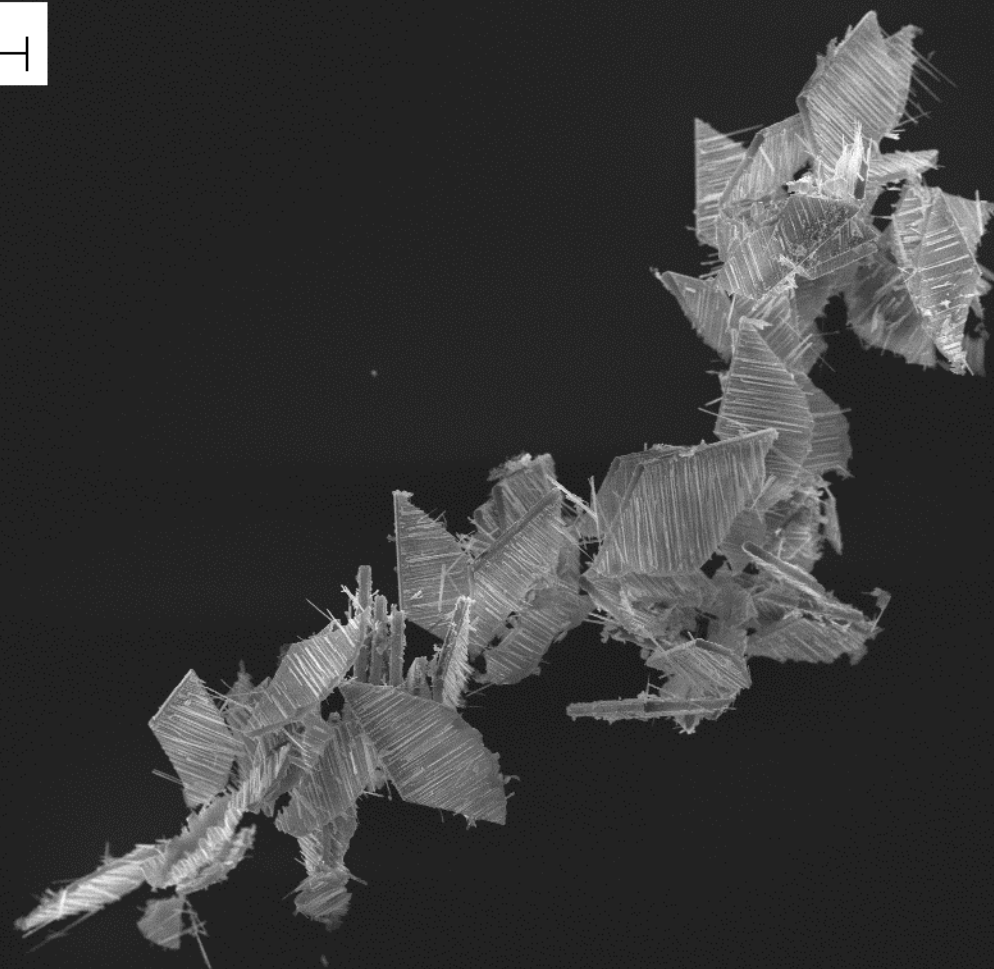
2016 Micro-Nano Graph Contest

11

“Silicon Shard Horse”

Description:

Silicon shards from a broken grating fabricated by deep reactive ion etching resemble a horse.

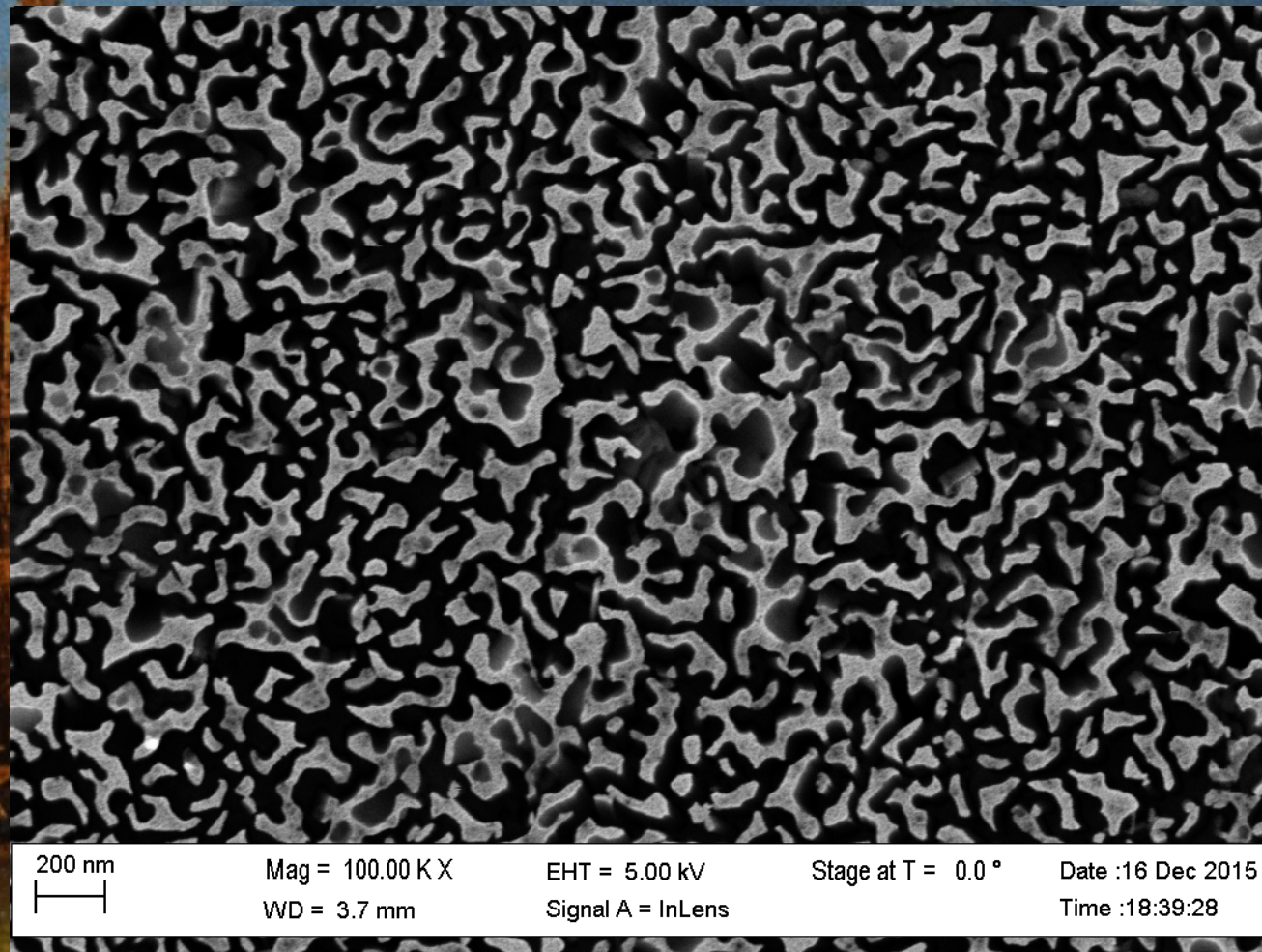


Submitted by: Joan Vila-Comamala
Affiliation: ETH Zurich

Instrument: SEM Zeiss Supra VP55
Magnification: 4.5 kX

Description:

Silicon metal assisted
chemical etching
using a thin porous
Gold layer.



200 nm

Mag = 100.00 K X
WD = 3.7 mm

EHT = 5.00 kV
Signal A = InLens

Stage at T = 0.0 °

Date :16 Dec 2015
Time :18:39:28



Submitted by: Joan Vila-Comamala
Affiliation: ETH Zurich

Instrument: SEM Zeiss Supra VP55
Magnification: 100.00 kX



"Micro Mining Pit"

Description:

Silicon metal assisted
chemical etching
using a thin square of
Gold that broke into
pieces.



2 μm
H

Mag = 6.00 K X
WD = 4.5 mm

EHT = 5.00 kV
Signal A = InLens

Tilt Angle = 0.0 °

Date :16 Nov 2015
Time :14:10:28



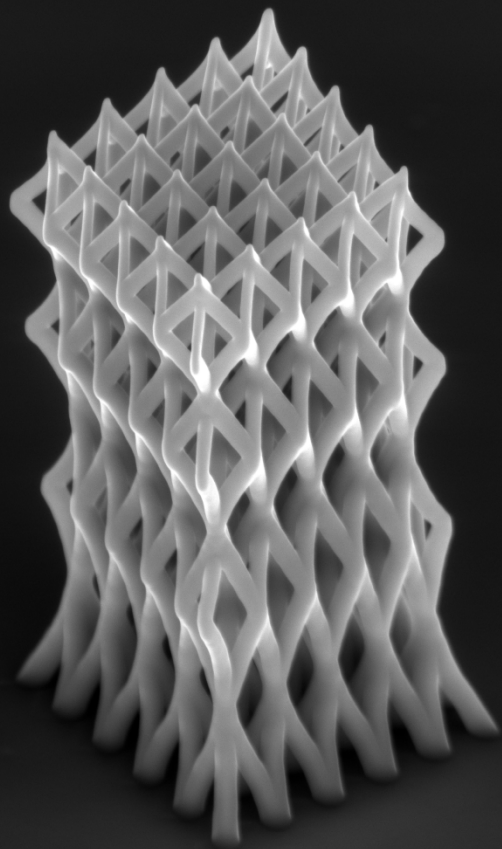
Submitted by: Joan Vila-Comamala
Affiliation: ETH Zurich

Instrument: SEM Zeiss Supra VP55
Magnification: 6.00 kX

2016 Micro-Nano Graph Contest

14

"Rapunzel, Rapunzel! Let down your hair!"



Medieval tower fabricated via Focused Electron Beam Induced Deposition (FEBID). This 3D-nano-printed artificial lattice consists of platinum/carbon branches with individual diameter between 25-70 nm.

det	HFW	curr	mag	HV	WD	
TLD	6.29 μm	0.40 nA	15 500 x	5.00 kV	4.9 mm	2 μm

artificial PtC-Lattice

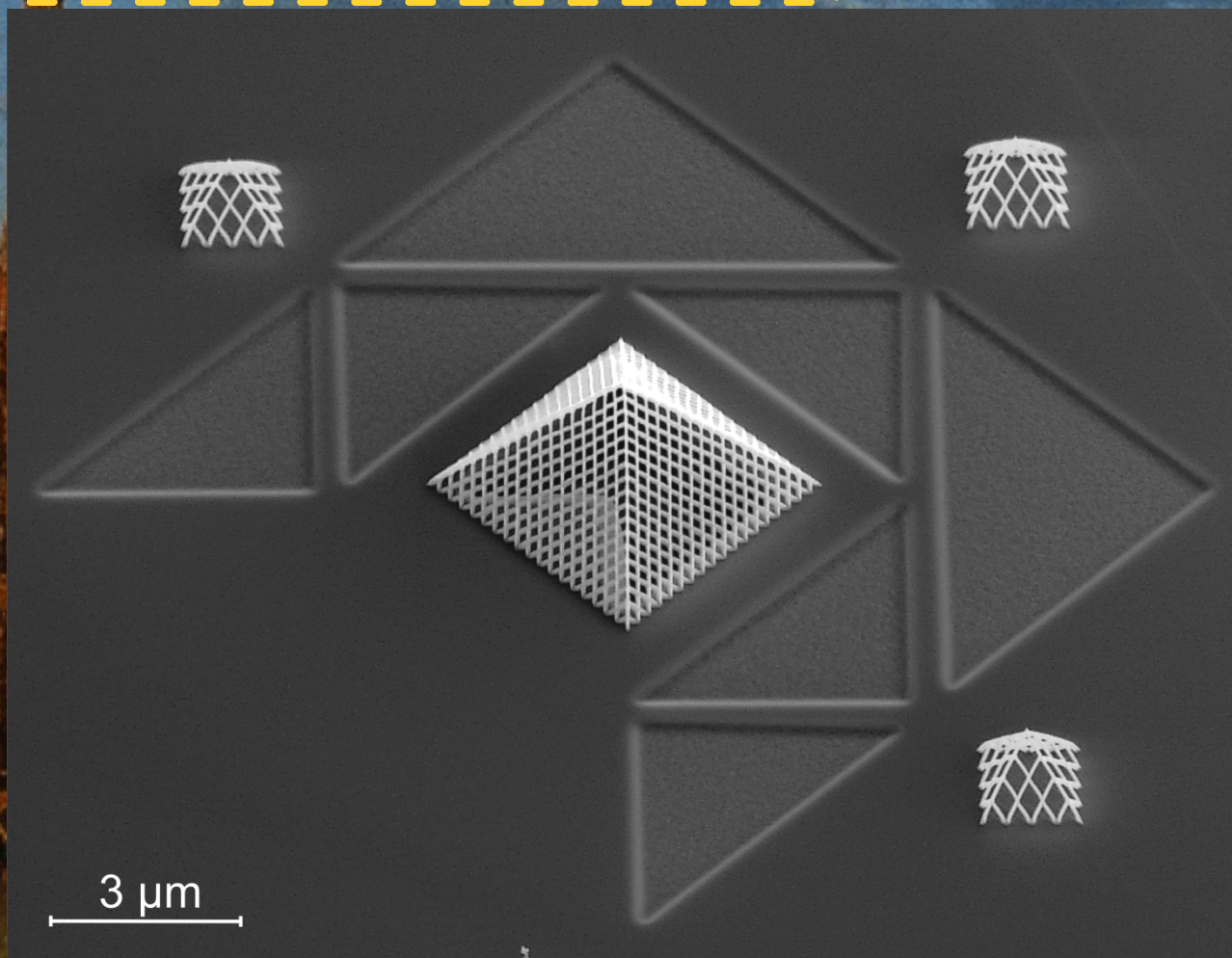


Submitted by: Robert Winkler

Affiliation: ZFE, Graz Centre for Electron Microscopy

Instrument: FEI Fib Nova200

Magnification: 15.5KX



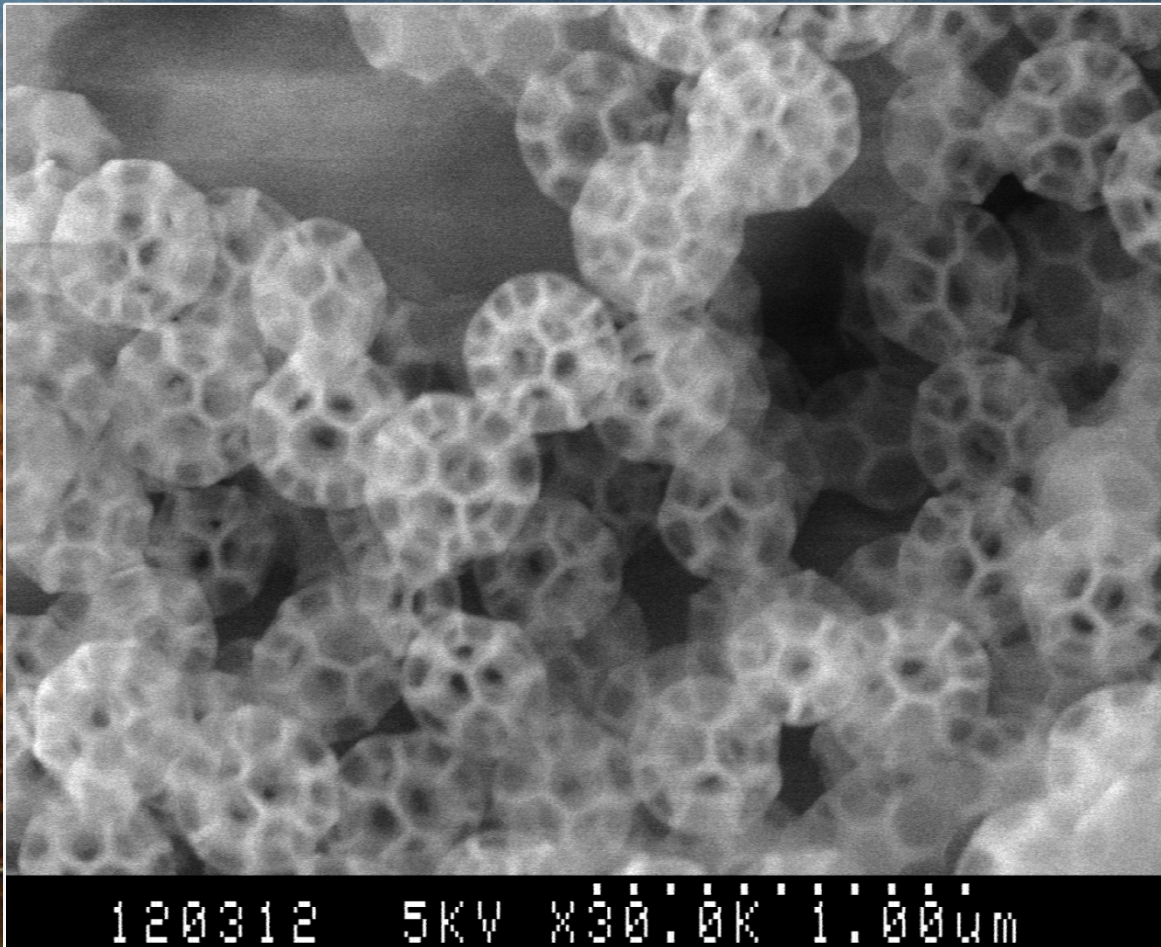
Replica of the glass pyramids in the courtyard of the Louvre (Paris) in a scale of 1: 8.000.000. The basement and the fountains are a FIB-cut, the 3D-structures (branch sizes between 25 and 70 nm) consist of platinum and carbon. This image demonstrates the 3D-Nanoprinting capabilities of Focused Electron Beam Induced Deposition (FEBID). Compare it to the real Louvre!

“Nano Footballs for Bacteria”

Description:

The football-shaped nano particles were discovered on a small insect of leafhopper. Therefore, I don't know the origin, material and properties. These have a frame structure with a diameter of about 300 nm.

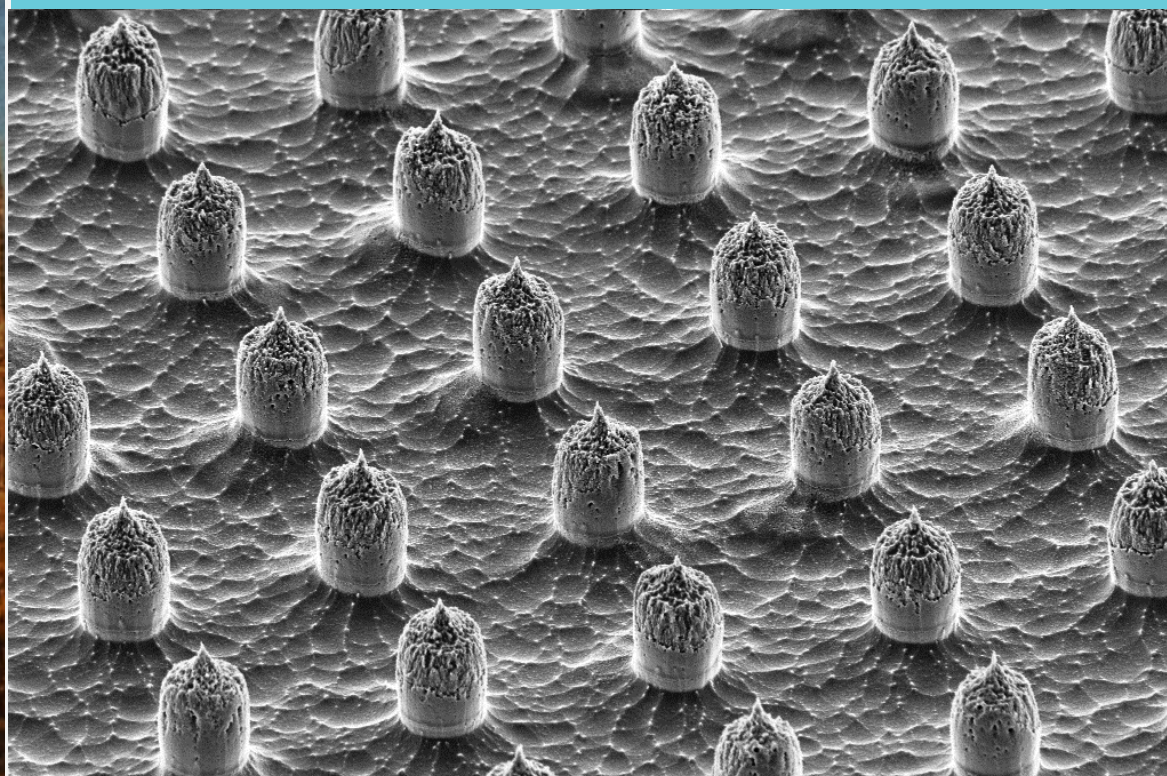
Could you make a micro football field for bacteria?



"Lotus fireplugs"

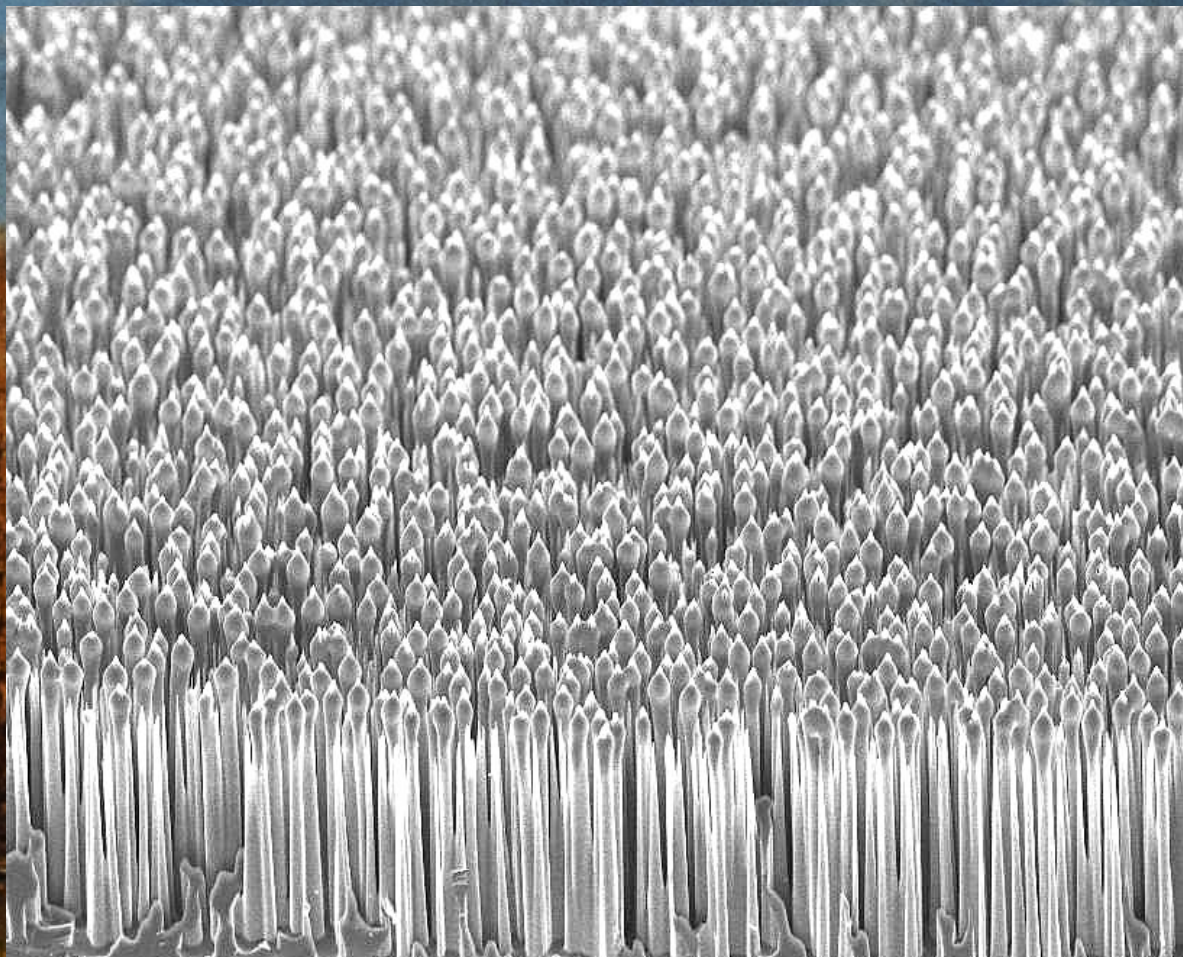
Description:

Mimicking Lotus leaf to produce silicon micro candles using photolithography and ICP-DRIE for superoleophobic surfaces.



10 μm

"Asparagus Field"



Description:
Black silicon
structures (Bosch
process) as Micro-
asparagus field, ready
for harvesting with
micro-harvester. Bon
Appetite!

**2016 Micro-Nano Graph
Contest**

19

“Don’t jump!”

Description:

Piece of peeled off resist mask - found this little fellow at the edge of deep silicon etch structures. Make sure you got the parachute before jump!



Submitted by: Katarzyna Korwin-Mikke
Affiliation: Oxford Instruments

Instrument: Zeiss Gemini Supra 25
Magnification: 1.6kX

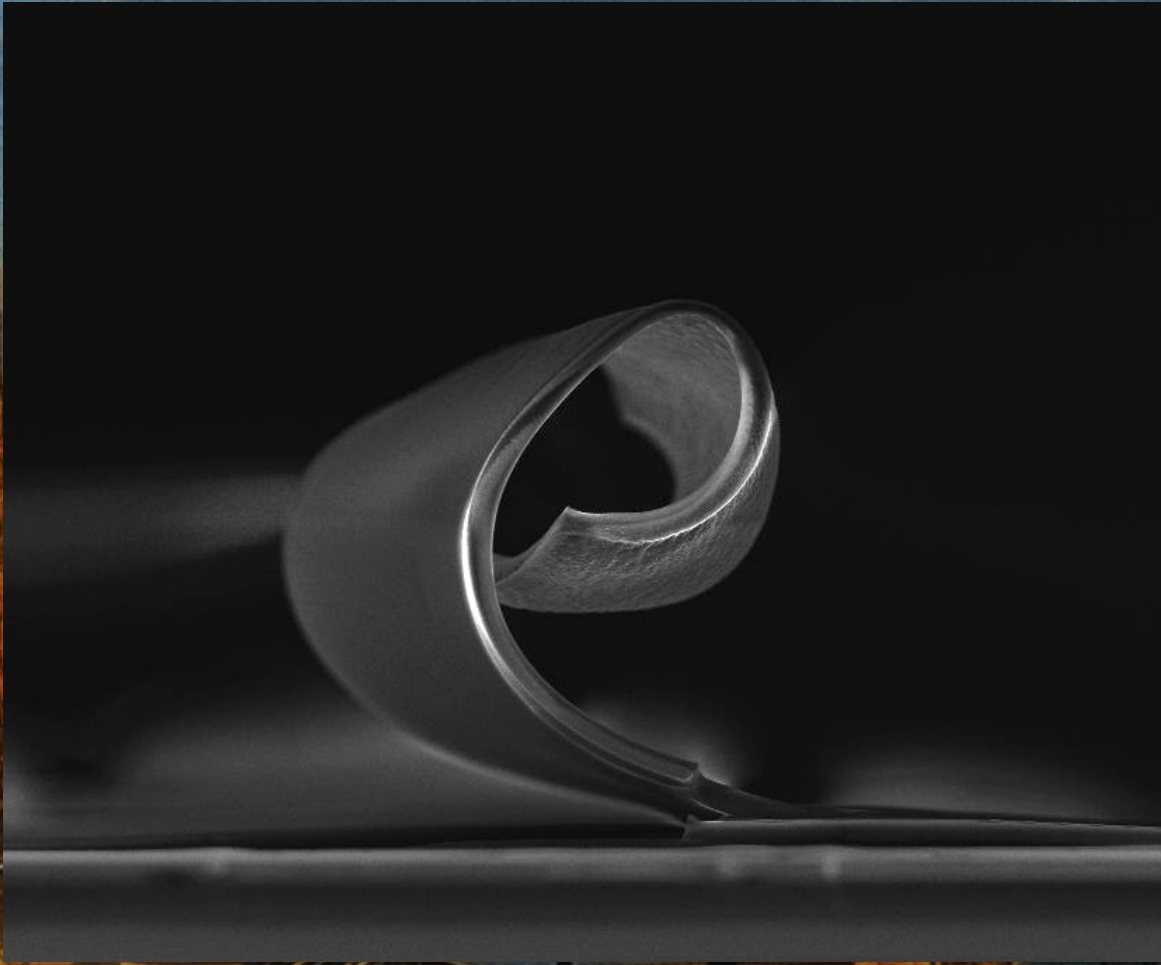
**2016 Micro-Nano Graph
Contest**

20

"Letter e"

Description:

Resist peeled off from
the sample surface
formed in letter e -
There must be hidden
message somewhere
from micro-world.



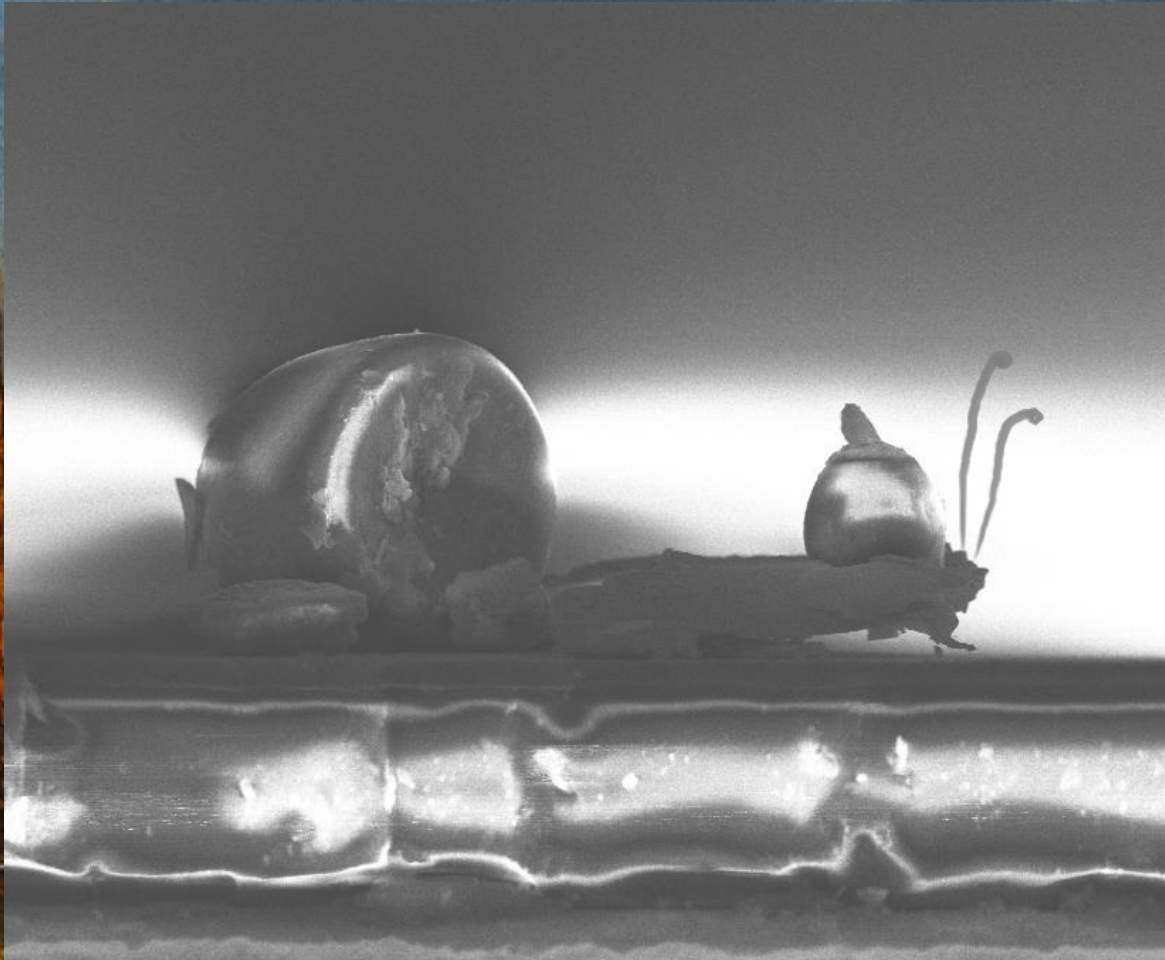
Submitted by: Katarzyna Korwin-Mikke
Affiliation: Oxford Instruments

Instrument: Zeiss Gemini Supra25
Magnification: 1.3kX

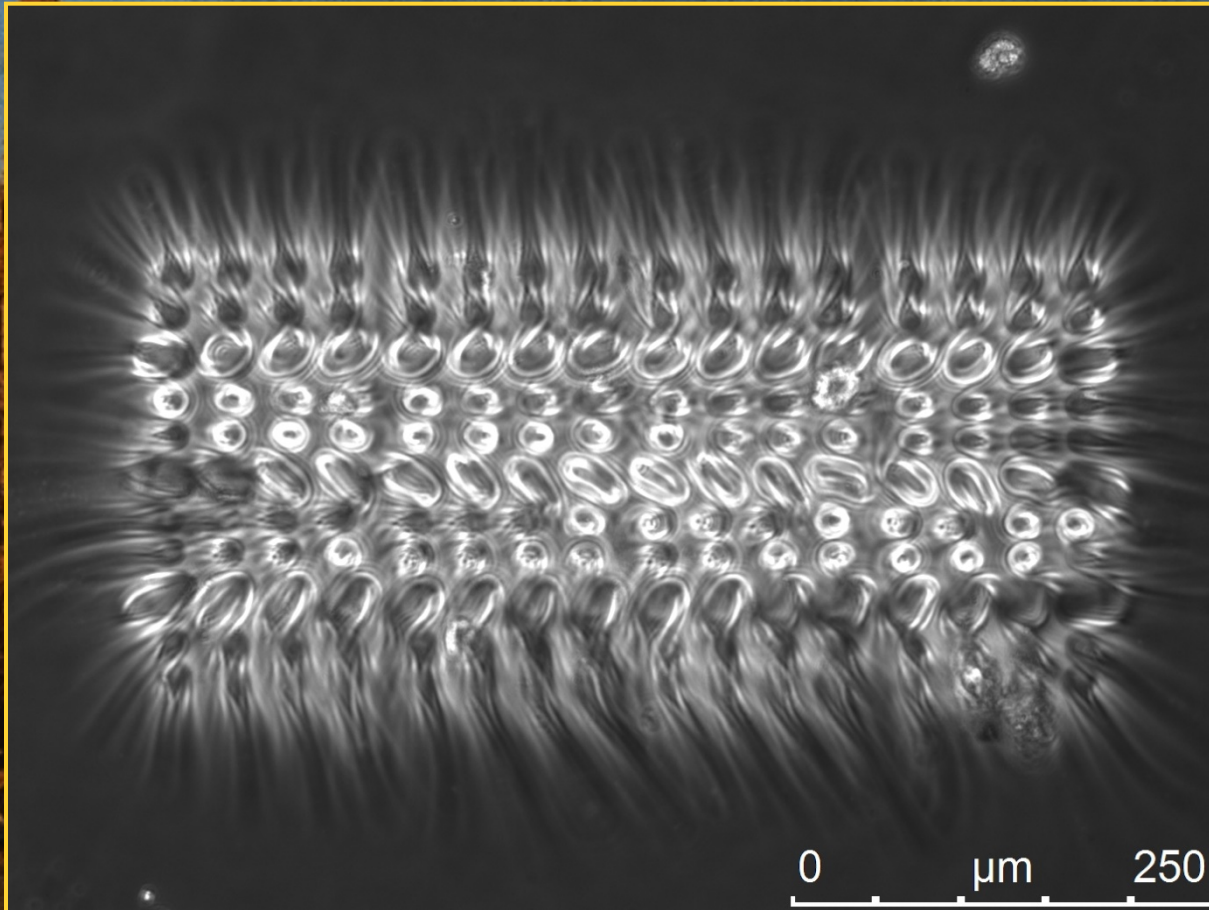
“Snail in cap”

Description:

Resist particles on the surface after cleaving the sample. The message received from the sample – process as slow as snail. Snail in a fancy apple cap was pretty blind when I found him... I’ve given him possibility of admiring the beauty of microworld by adding antennae in Paint.



"Chives" *Allium schoenoprasum*"

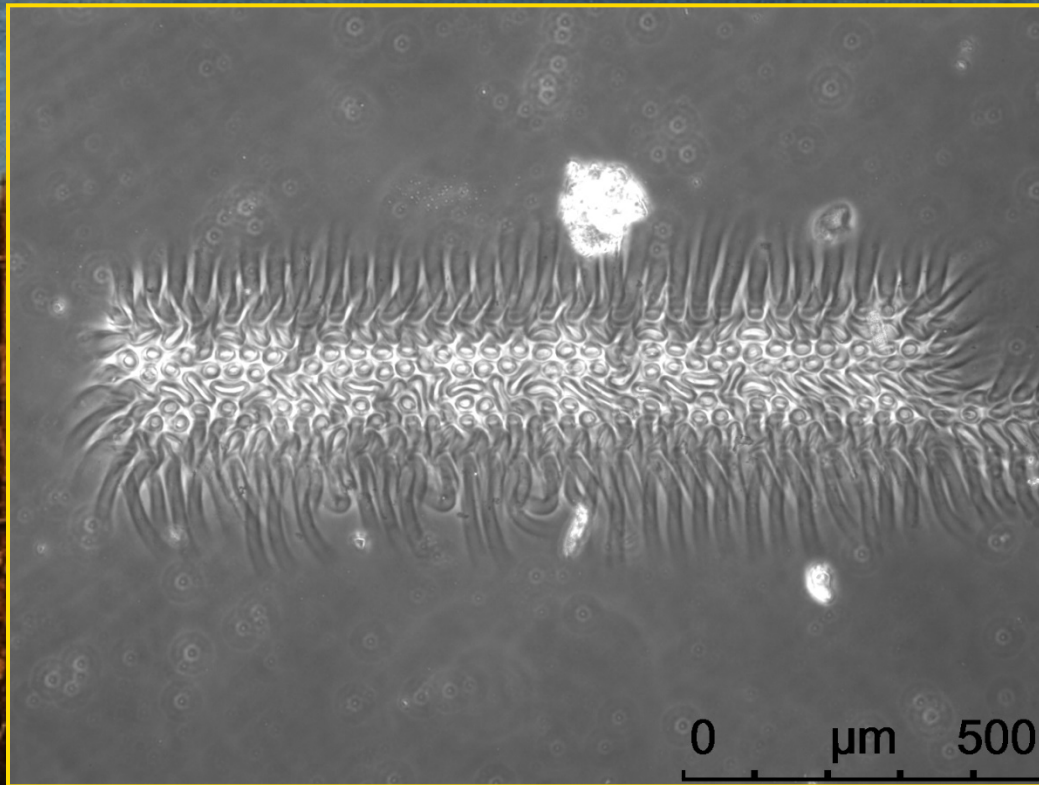


Description:
Array of high aspect-ratio cylindrical shells made of gelatin hydrogel, fabricated by two photon lithography. Hydrated structures bend like long hollow chive leaves.

"Hairy millipede"

Description:

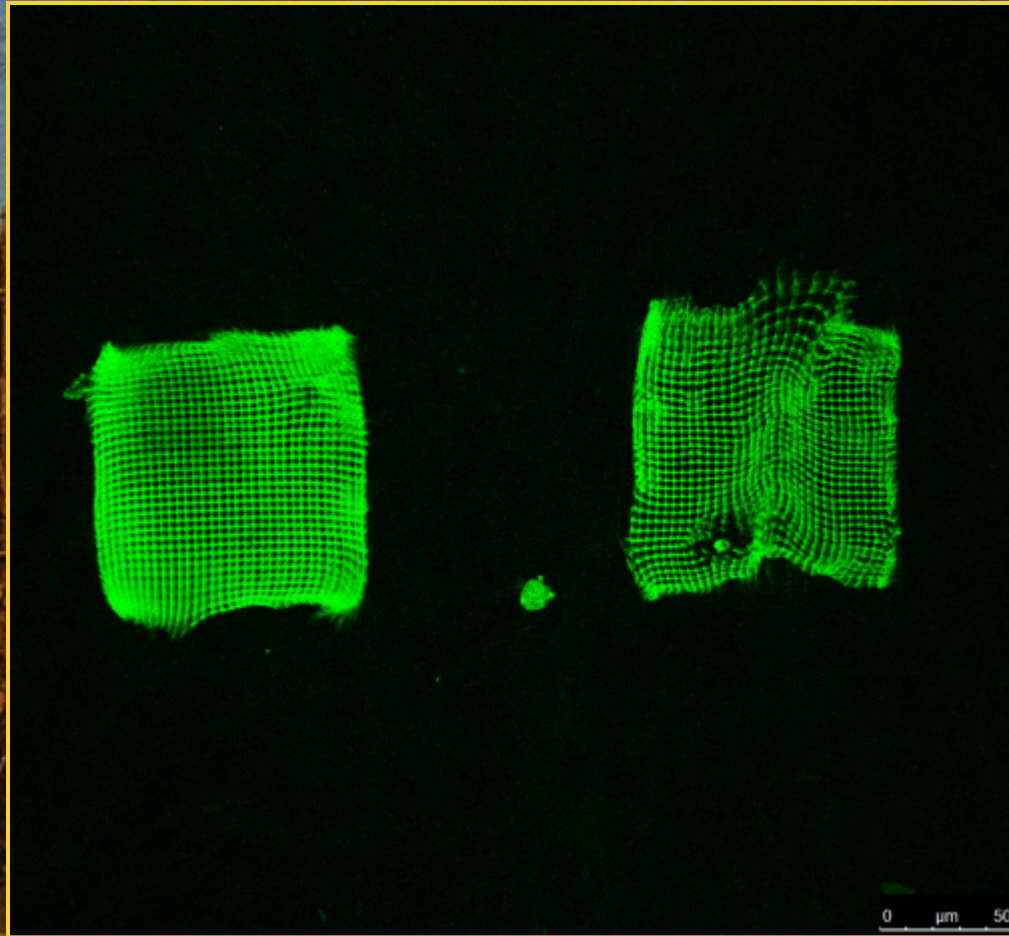
High aspect-ratio cylindrical shells made of gelatin hydrogel arranged in a long dense array, fabricated by two photon lithography, immersed in water.



"Cell fishing nets"

Description:

Net structures made of hydrated gelatin hydrogel, fabricated by two photon lithography. The 3D nets are pulled and occasionally torn apart by cells invading them.



“Martian Iceberg”

Description:

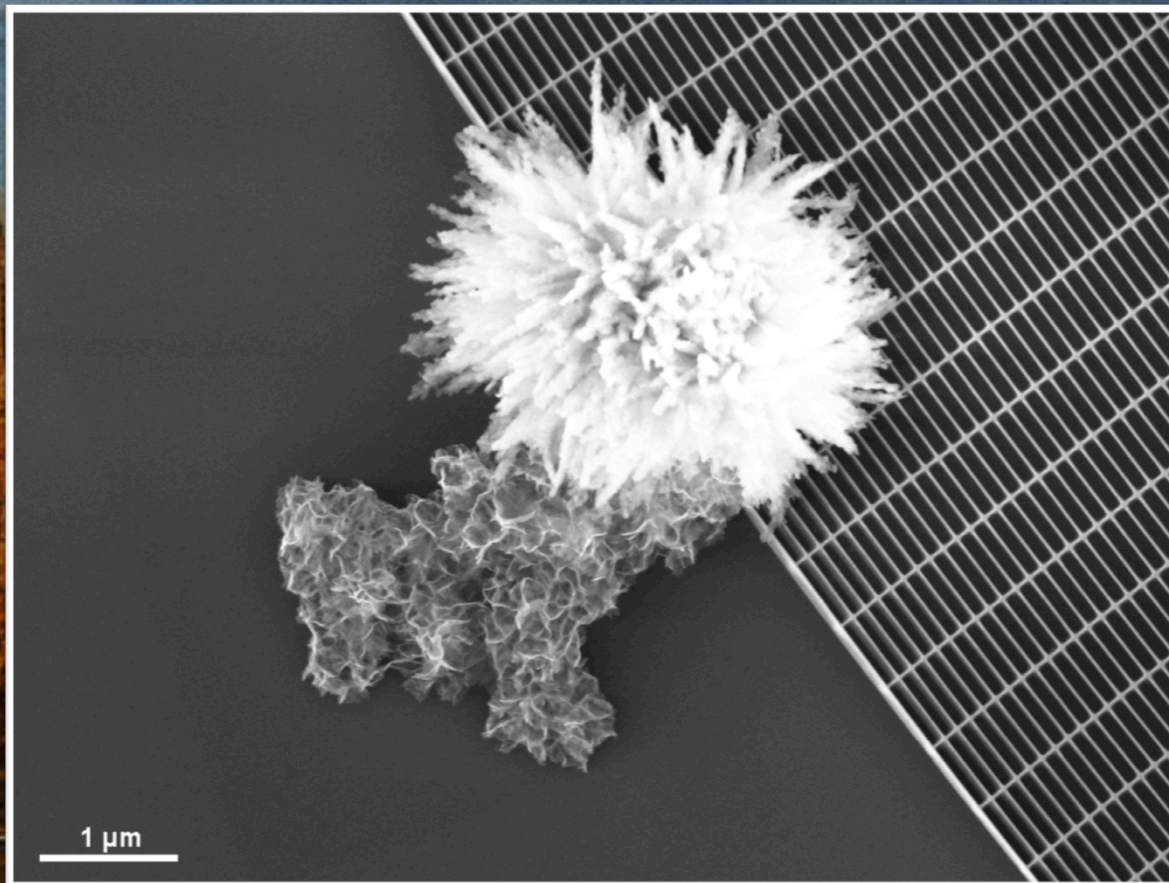
Silicon particle with carbon rich resist coating. Charging effects made it hard to get a sharp image but the effect is quite eerie.



“Micro Lion”

Description:

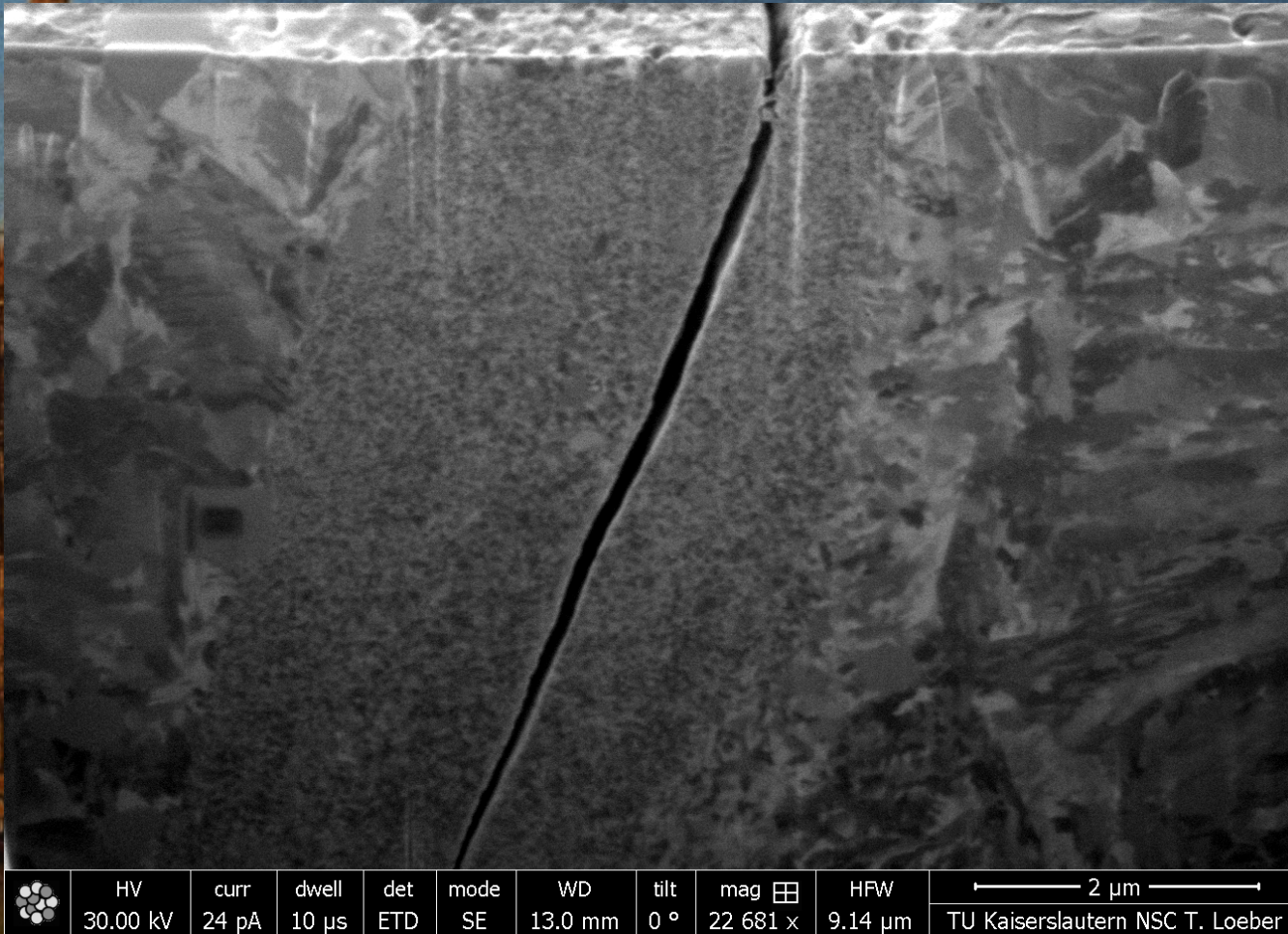
This nice structure crystallized after development on the edge of a Fresnel zone plate made from HSQ.



“Cracking iron”

Description:

The ion image shows the cross section of an iron sample that was heavily bent until it cracked. The resulting crack and also the crystalline structure of the iron can be seen. The crack changes large crystalline structures to very small clusters near the crack.



HV
30.00 kV

curr
24 pA

dwell
10 μ s

det
ETD

mode
SE

WD
13.0 mm

tilt
0 °

mag
22 681 \times

HFV
9.14 μ m

2 μ m

TU Kaiserslautern NSC T. Loeber



Submitted by: Thomas Loeber
Affiliation: NSC, TU Kaiserslautern

Instrument: FEI Helios NanoLab 650
Magnification: 22.7 kX

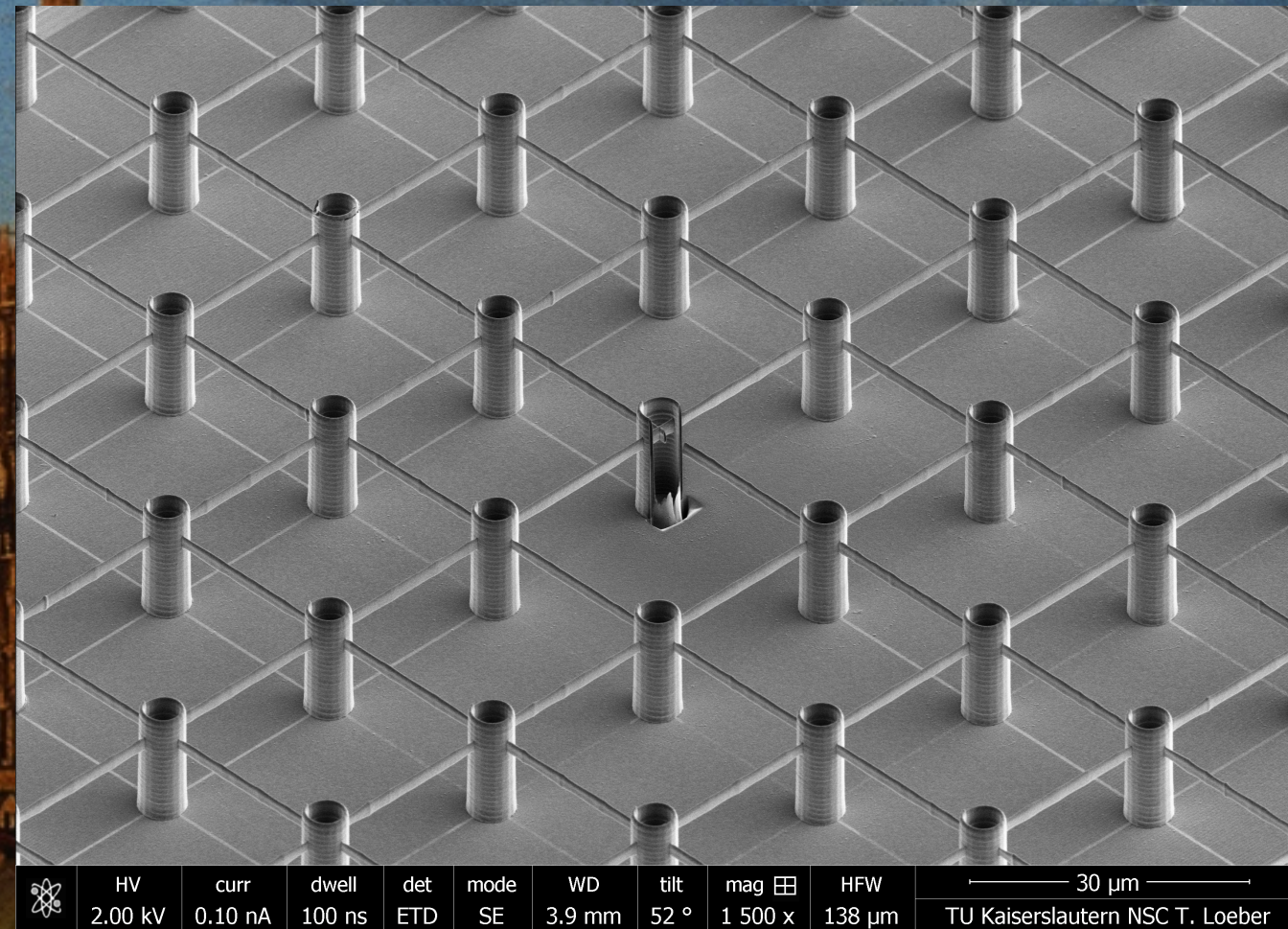
2016 Micro-Nano Graph Contest

28

“Sticking out from the crowd”

Description:

The image shows a grid consisting of photoresist pillars and bars, which was written with the 3D laser lithography system Nanoscribe. A 40 nm thick titanium dioxide (TiO₂) layer was deposited by atomic layer deposition on top of the structures. The pillar in the middle was milled with a FIB for analysis. It was verified that the structure was conformally covered with TiO₂.



HV	curr	dwell	det	mode	WD	tilt	mag	HFW	30 µm	
2.00 kV	0.10 nA	100 ns	ETD	SE	3.9 mm	52 °	1 500 x	138 µm	TU Kaiserslautern NSC T. Loeber	



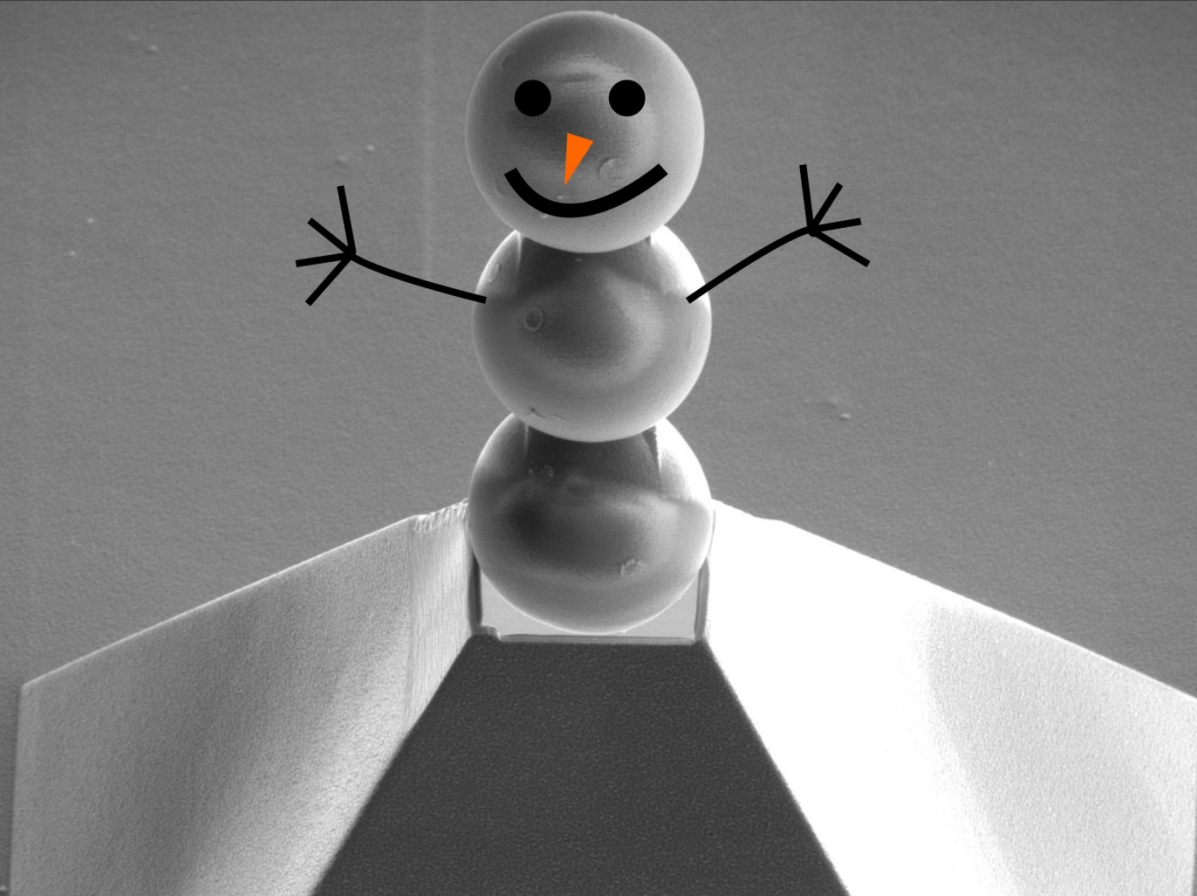
Submitted by: Thomas Loeber
Affiliation: NSC, TU Kaiserslautern


Instrument: FEI Helios NanoLab 650
Magnification: 1.5 kX

"Frosty the SNOM snowman"

Description:

The pyramidal tip of an AFM cantilever was partially cut off with a FIB system. In the truncated pyramid three glass spheres were stacked on top of each other. A SNOM cantilever with one glass sphere is used for diffuse light scattering. For fun the snowman was sketched.



	HV	curr	dwell	det	mode	WD	tilt	mag	HFWD	5 μ m	
	2.00 kV	0.10 nA	30 μ s	ETD	SE	3.9 mm	52 °	8 000 x	25.9 μ m	TU Kaiserslautern NSC T. Loeber	



Submitted by: Thomas Loeber
Affiliation: NSC, TU Kaiserslautern

Instrument: FEI Helios NanoLab 650
Magnification: 8.0 kX

“Animating a microbe”

Description:

The movie shows the reconstruction of a *schmidingerothrix salinarum* cell. The microbe was cut with a FIB. An image was taken from each slice. Over 500 images were aligned and the different elements of the cell were assigned to different colors. The cell outer membrane is shown in red, the cell nuclei are green and purple, the alveolar sheets are turquoise and bacteria inside the cell are yellow with a vacuole in blue.



Submitted by: Thomas Loeber

Instrument: FEI Helios NanoLab 650

Affiliation: NSC, TU Kaiserslautern

Magnification: kX

Sample provided by Lea Weinisch, Ecology Group, TU Kaiserslautern

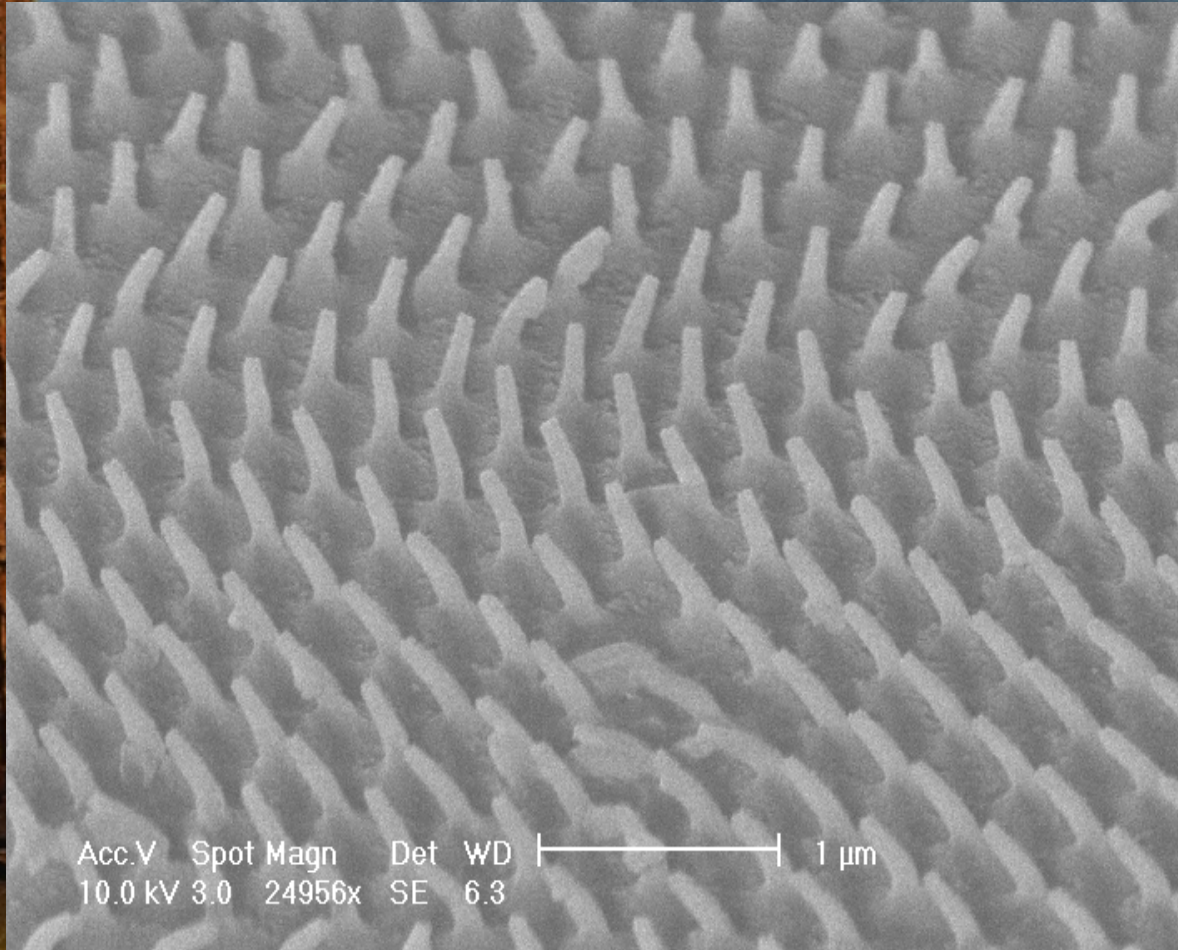
2016 Micro-Nano Graph Contest

31

“Nano Grass”

Description:

Wind blows, grass grows. Those nanopillars with different orientation look like “Nano Grass”.



Submitted by: ZHU Shuyan

Affiliation: City University of Hong Kong

Instrument: Philips XL30 ESEM

Magnification: 24956 X

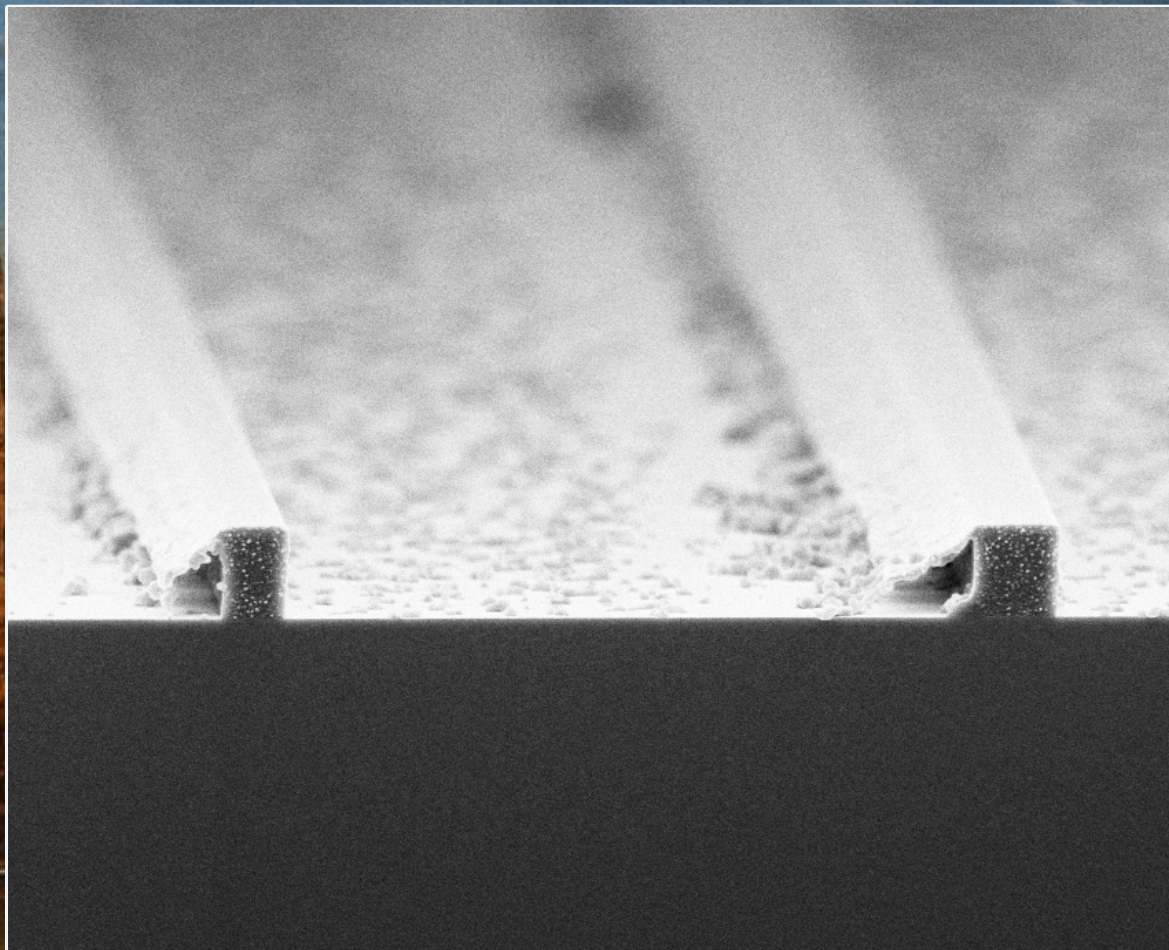
**2016 Micro-Nano Graph
Contest**

32

"BEACH HOUSES"

Description:

ZEP520A after eBeam exposure and development with overhanging residues due to insufficient rinsing.



Submitted by: Robert Kirchner
Affiliation: Paul Scherrer Institut

Instrument: Zeiss Supra 55 VP
Magnification: 47k X

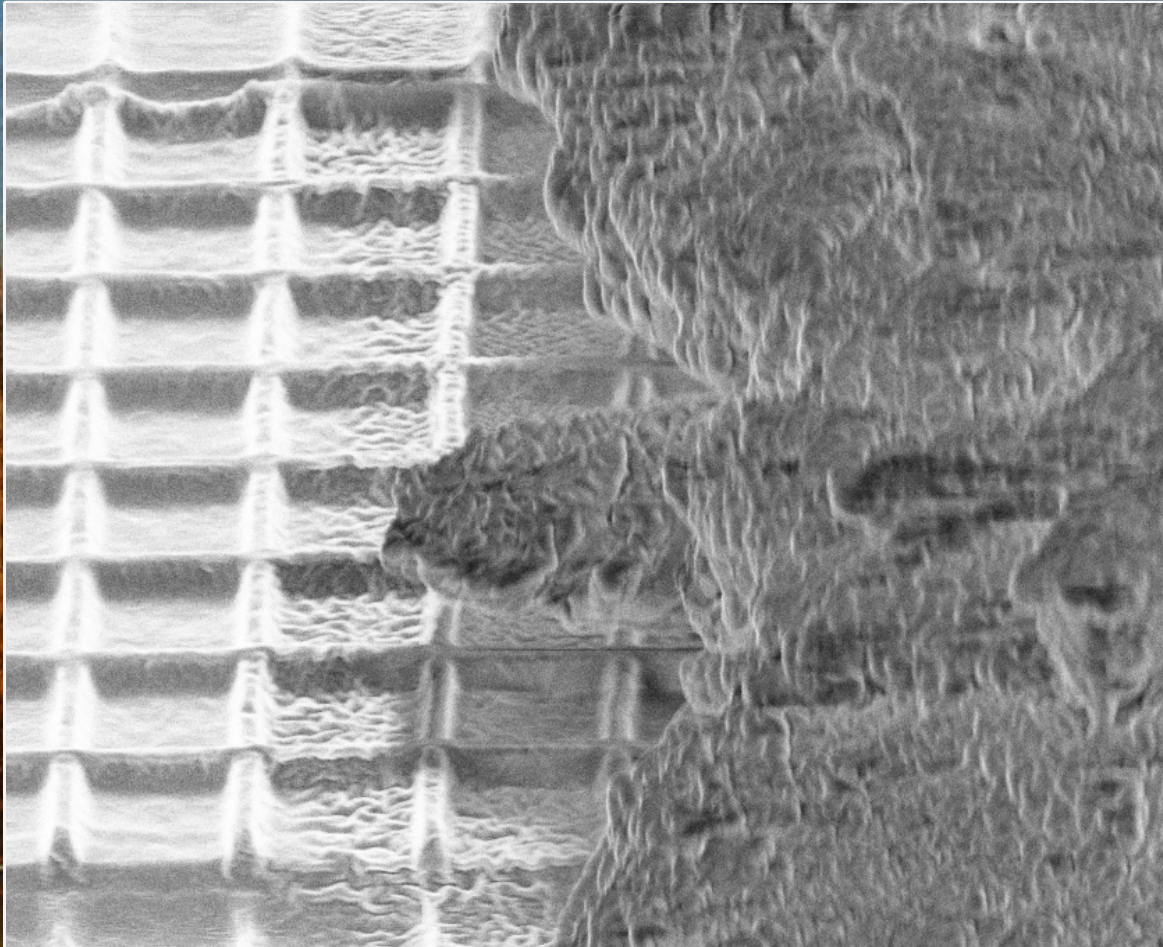
2016 Micro-Nano Graph Contest

33

“EAGLE”

Description:

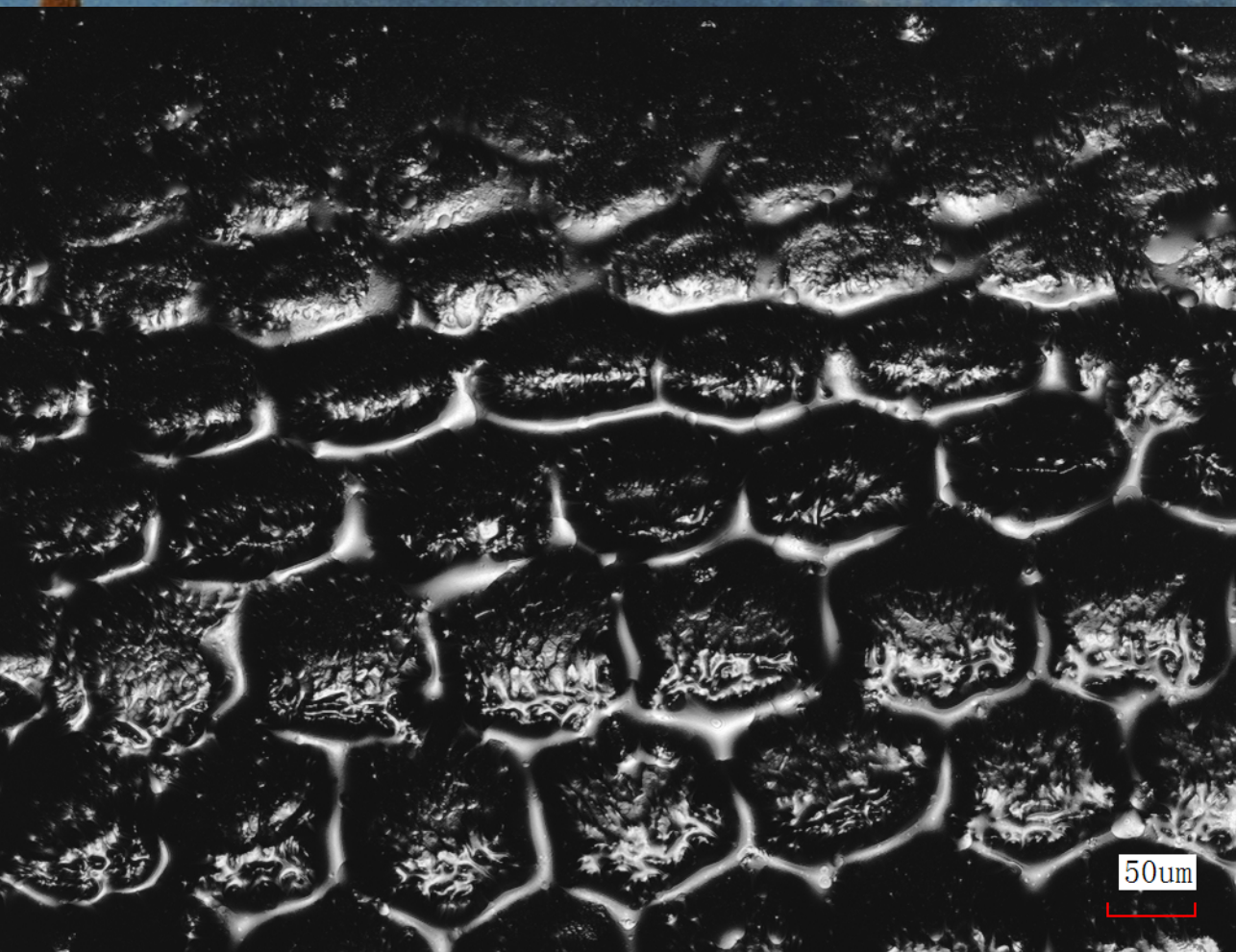
Dust particle on
nano-imprinted
polymer surface after
Cr-coating (giving
shadow effect)



Submitted by: Robert Kirchner
Affiliation: Paul Scherrer Institut

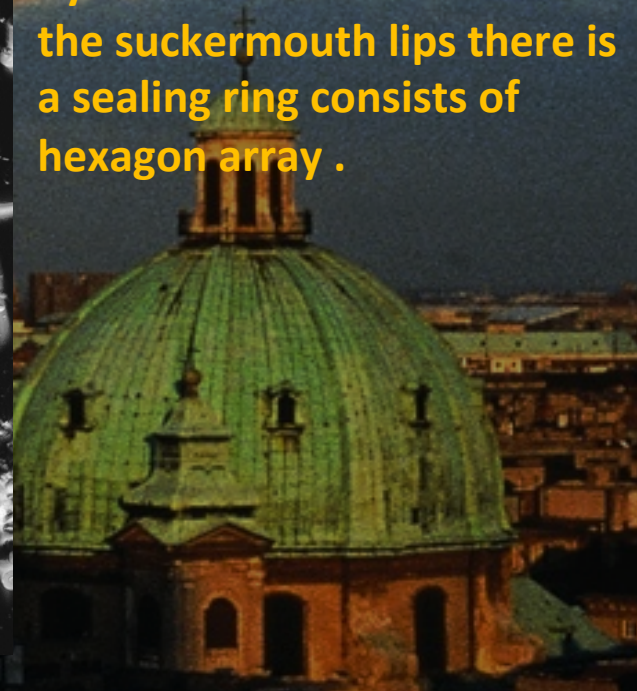
Instrument: Zeiss Supra 55 VP
Magnification: 19k X

Hexagon array around sucking loach lips



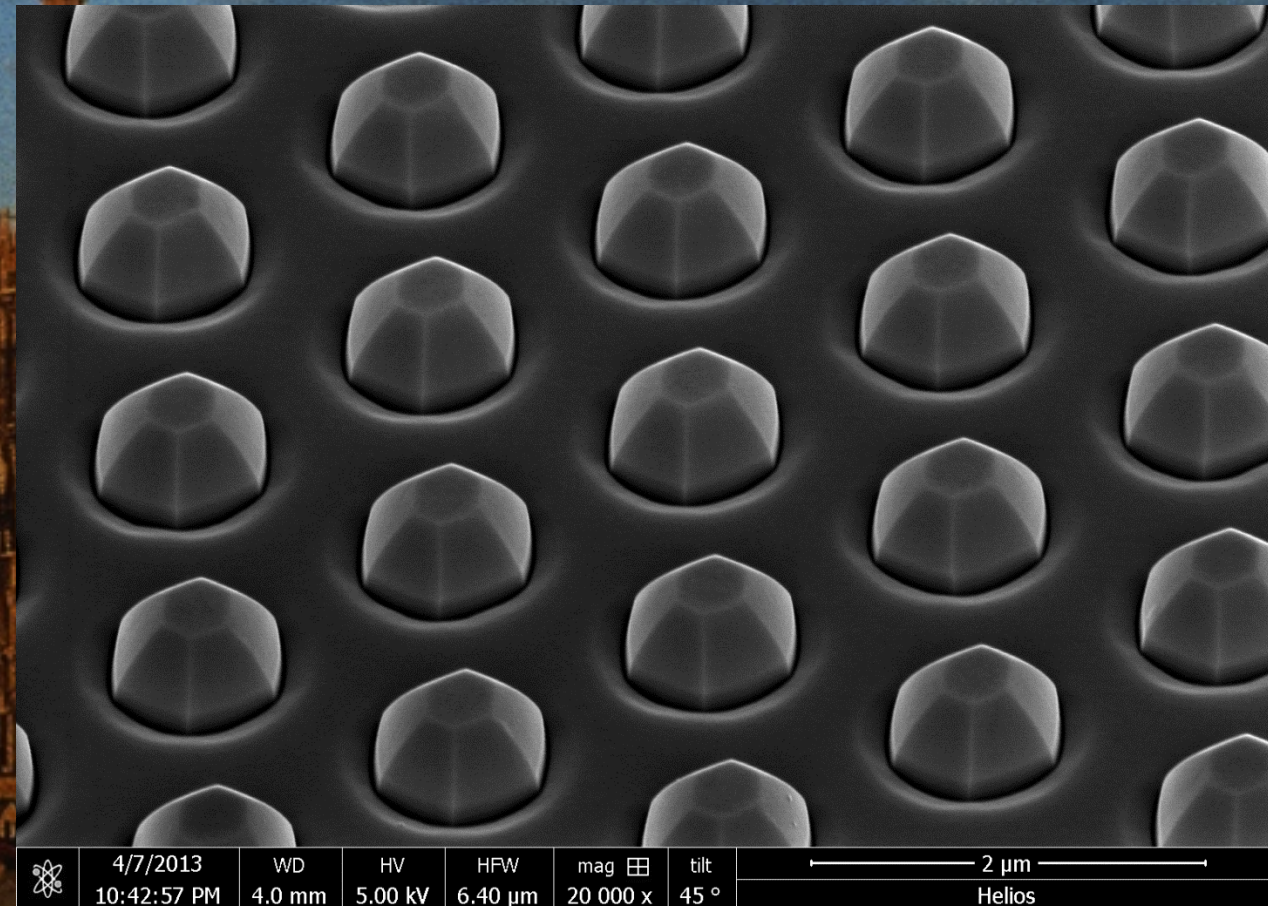
Description:

Confocal microscopy graph
The sucking loach can attach to a stone or aquarium wall by its suckermouth. Around the suckermouth lips there is a sealing ring consists of hexagon array .



Description:

GaN is a wurtzite crystal with six-fold symmetry. Hexagonal cones can be etched by plasma etching method on GaN due to its anisotropy etch rate on different crystal faces, showing the symmetrical beauty of nature.



Submitted by: Zhe Liu
Affiliation: Institute of Physics, Chinese Academy of Sciences
Magnification: 20 K X

Instrument: FEI Helios 600i

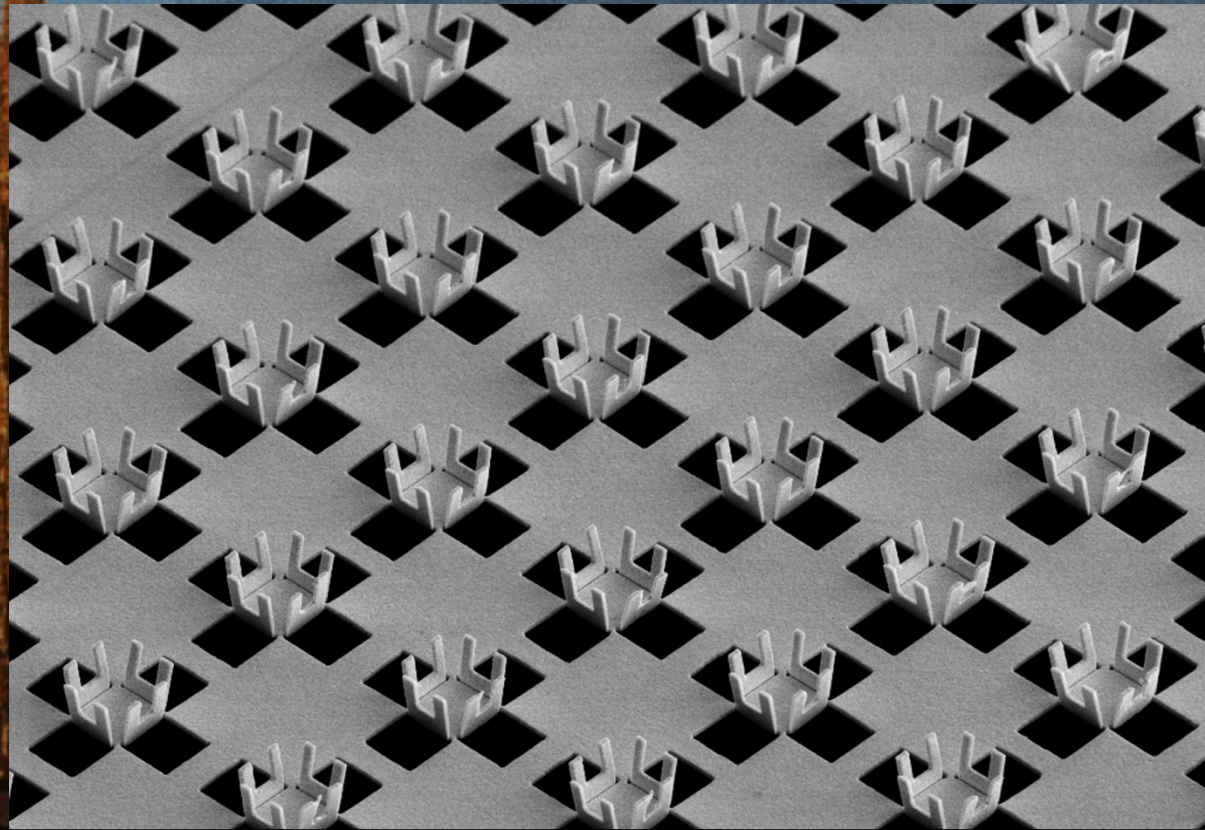
2016 Micro-Nano Graph Contest

36

“Construction Site”

Description:

A construction site with 3D brackets regularly arranged in micro-scale, which were cut and folded by focused ion beam on suspended gold film.



E-Beam	Det	Mag	Tilt	FWD	Spot	
5.00 kV	SED	10.0 kX	52.0°	4.762	4	10 μ m



Submitted by: Zhe Liu

Instrument: FEI DB235

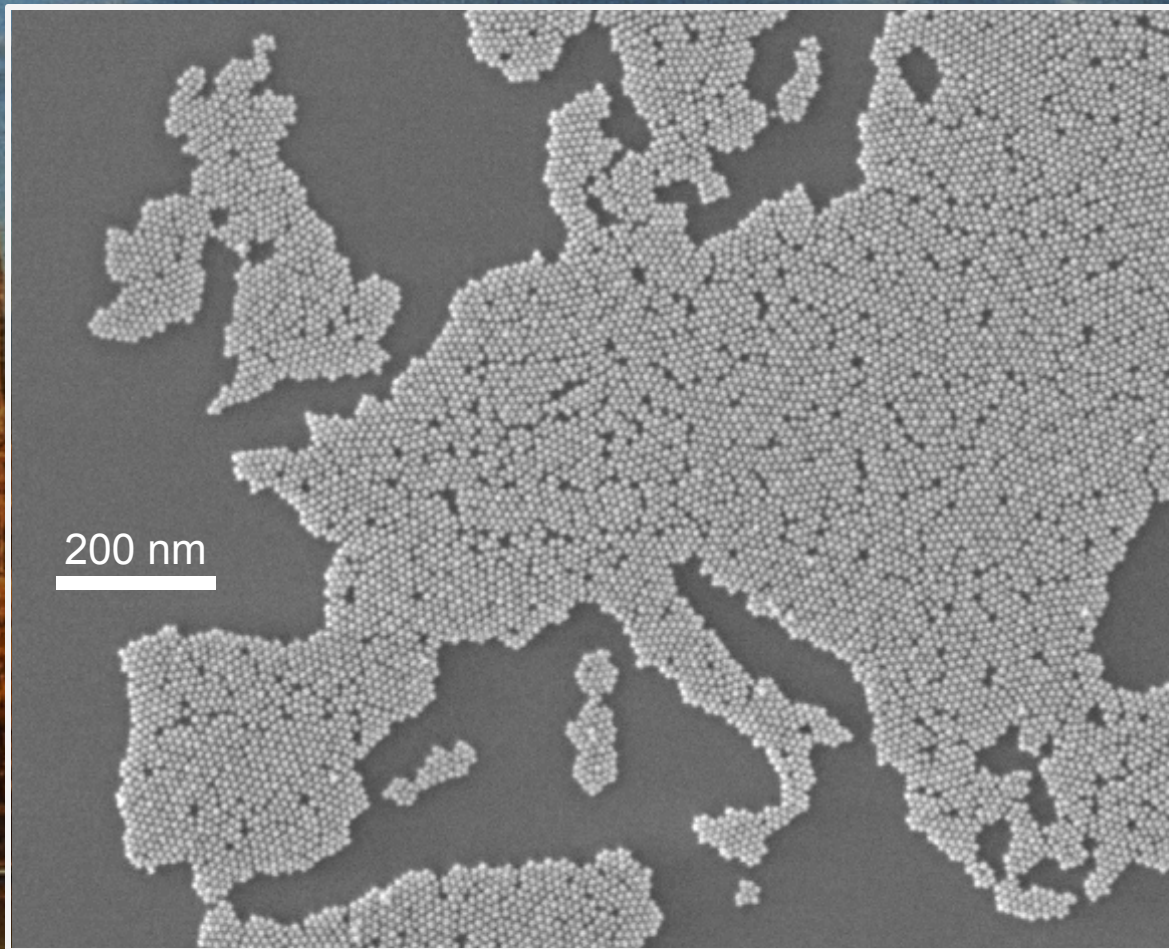
Affiliation: Institute of Physics, Chinese Academy of Sciences

Magnification: 10 K X

“The Spotted Continent”

Description:

SEM image of a map of Europe consisting of a close packed monolayer of 10-nm gold nanoparticles, patterned by direct electron-beam exposure and subsequent emulsion-based development.



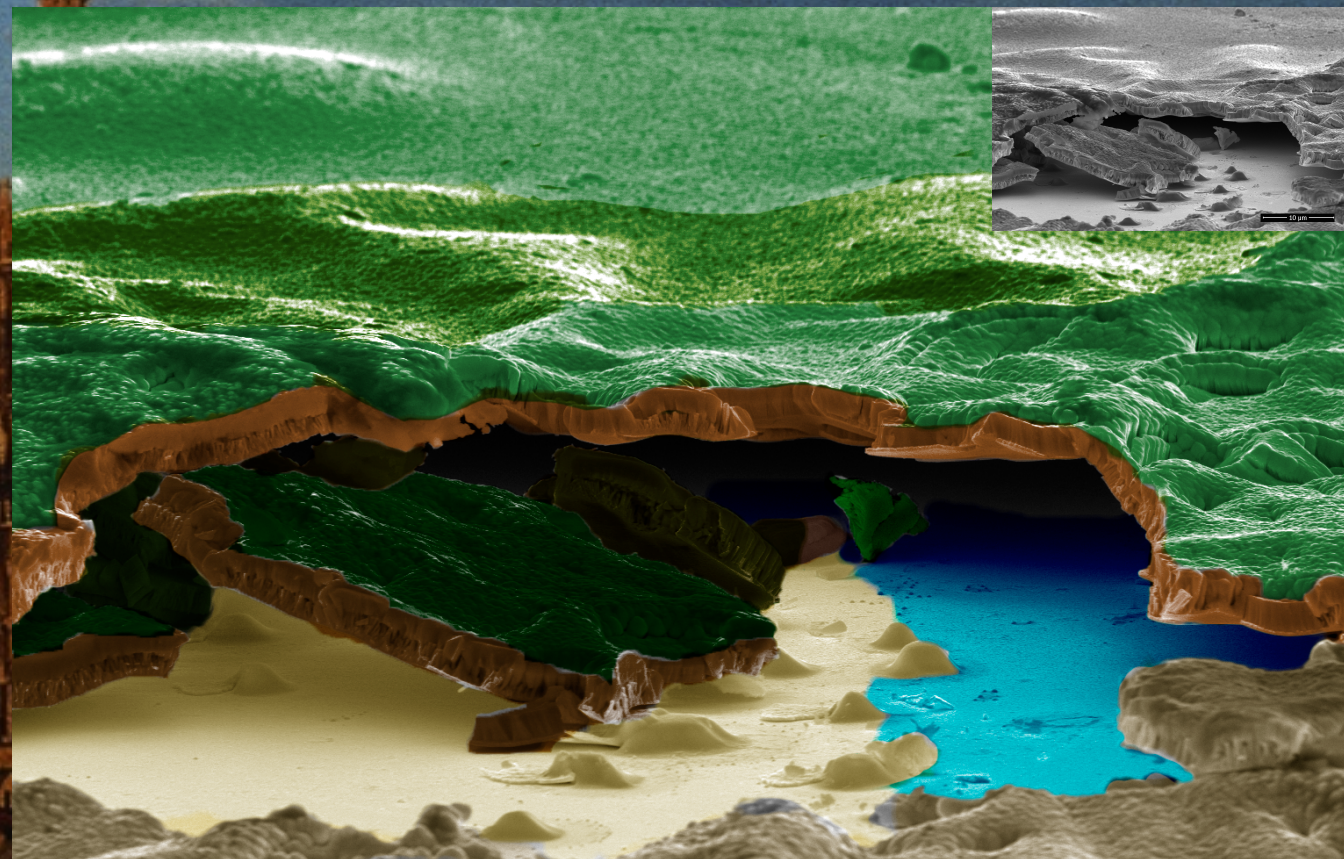
2016 Micro-Nano Graph Contest

38

“Secret Heaven”

Description:

Every single defect have its own mystery, this ITO coated glass defect have a secret heaven hidden.



Submitted by: Muhammed BEKIN

Instrument: FEI Nova NanoSEM

Affiliation: Istanbul Technical University

Magnification: 30000 X

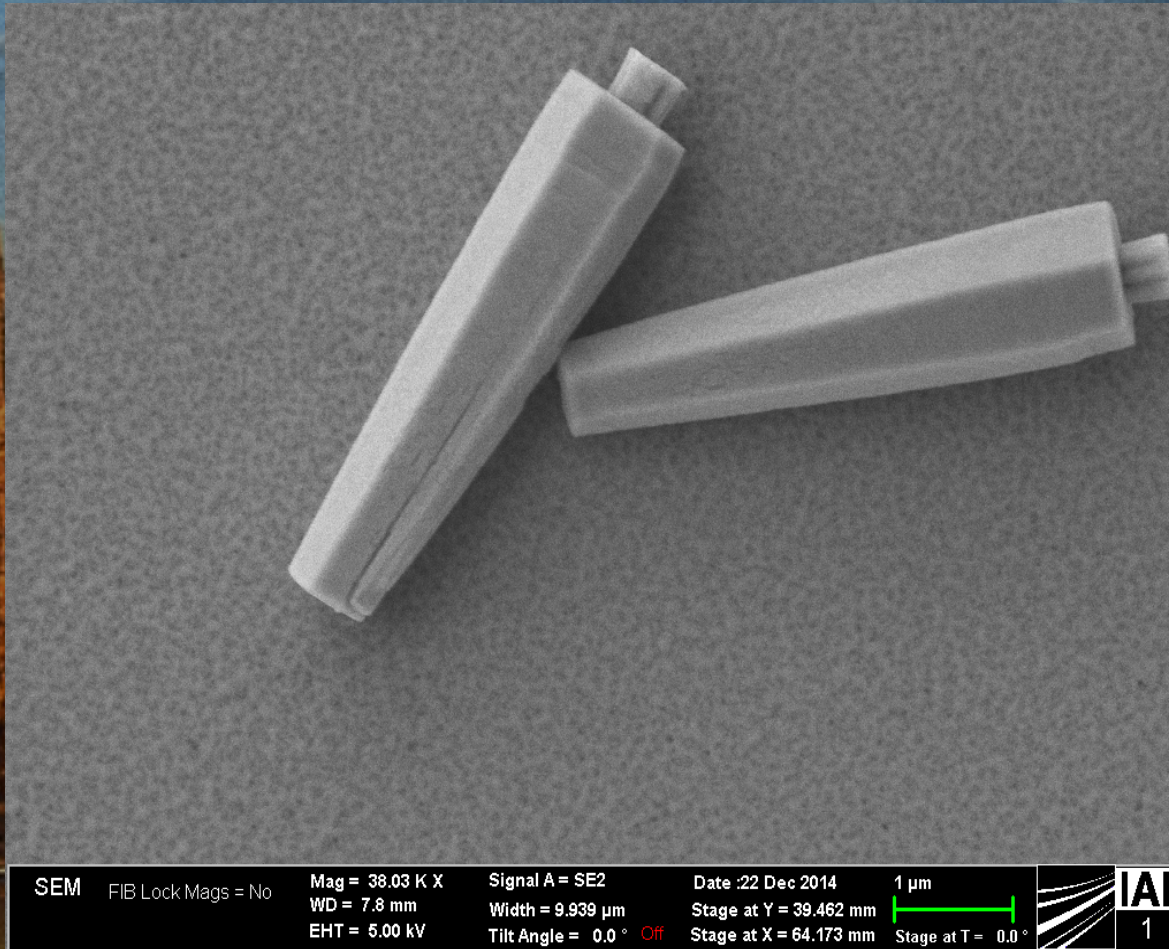
2016 Micro-Nano Graph Contest

39

"Delicious Micro-(ca)rods"

Description:

Columnar,
single crystalline ZnO
rods for novel
fingerprint sensor
technology. Just
imagine in orange
and green. Mmm,
delicious!



Submitted by: Christian Giese
Affiliation: Fraunhofer IAF

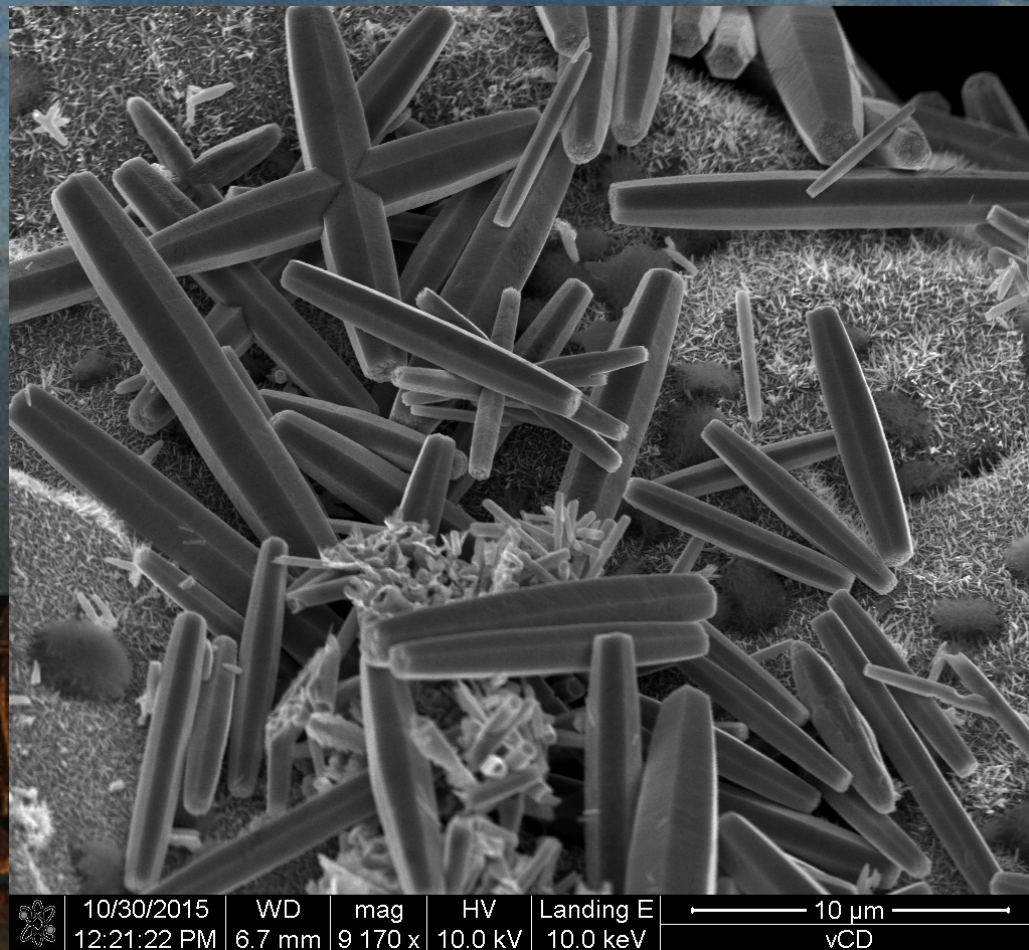
Instrument: Zeiss 15-40 EsB XB
Magnification: 38 kX

2016 Micro-Nano Graph Contest

40

“Micro-Mikado”

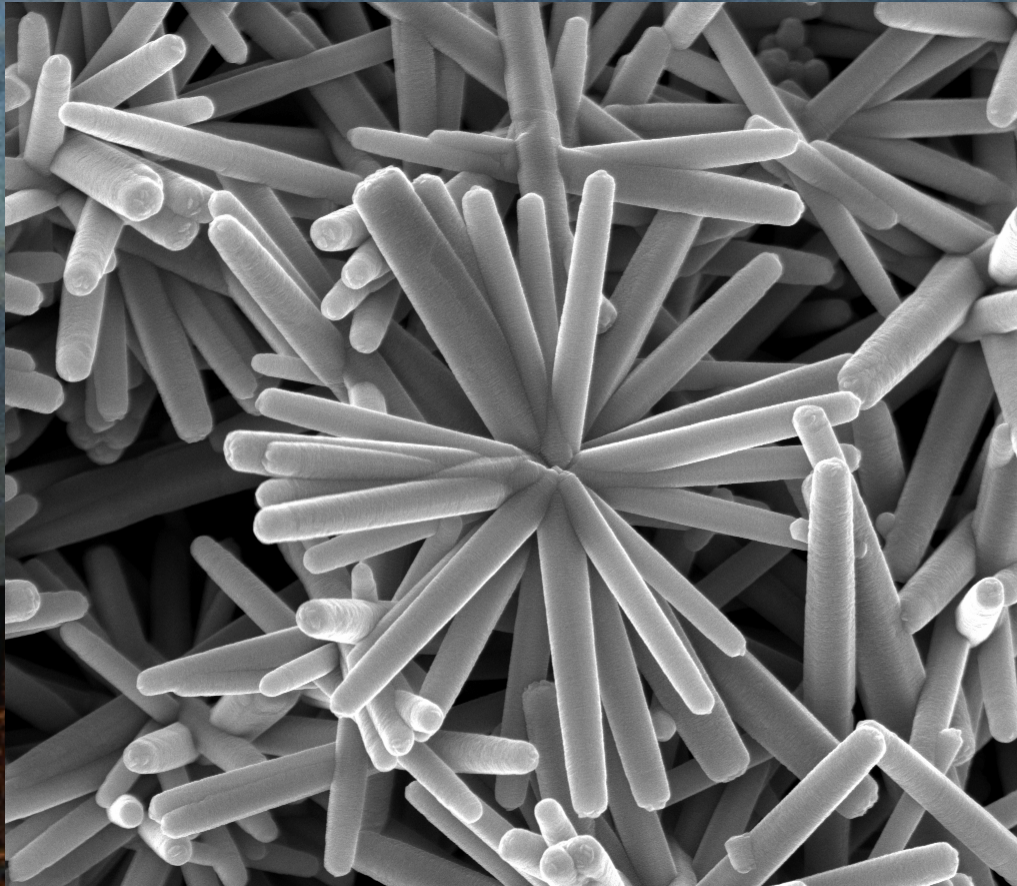
Description:
Single crystalline ZnO
micro-rods for
fingerprint sensing.
Note the nice twin
specimen: X never
ever marks the spot?




Submitted by: Christian Giese
Affiliation: Fraunhofer IAF

Instrument: Hitachi S-4500
Magnification: 9 kX

Description:
Grown single
crystalline ZnO rods
for novel fingerprint
sensor technology.
Watch your (micro)
step!



	10/26/2015 1:52:30 PM	WD 5.8 mm	mag 25 000 x	HV 10.0 kV	Landing E 10.0 keV	4 μ m vCD
---	--------------------------	--------------	-----------------	---------------	-----------------------	------------------

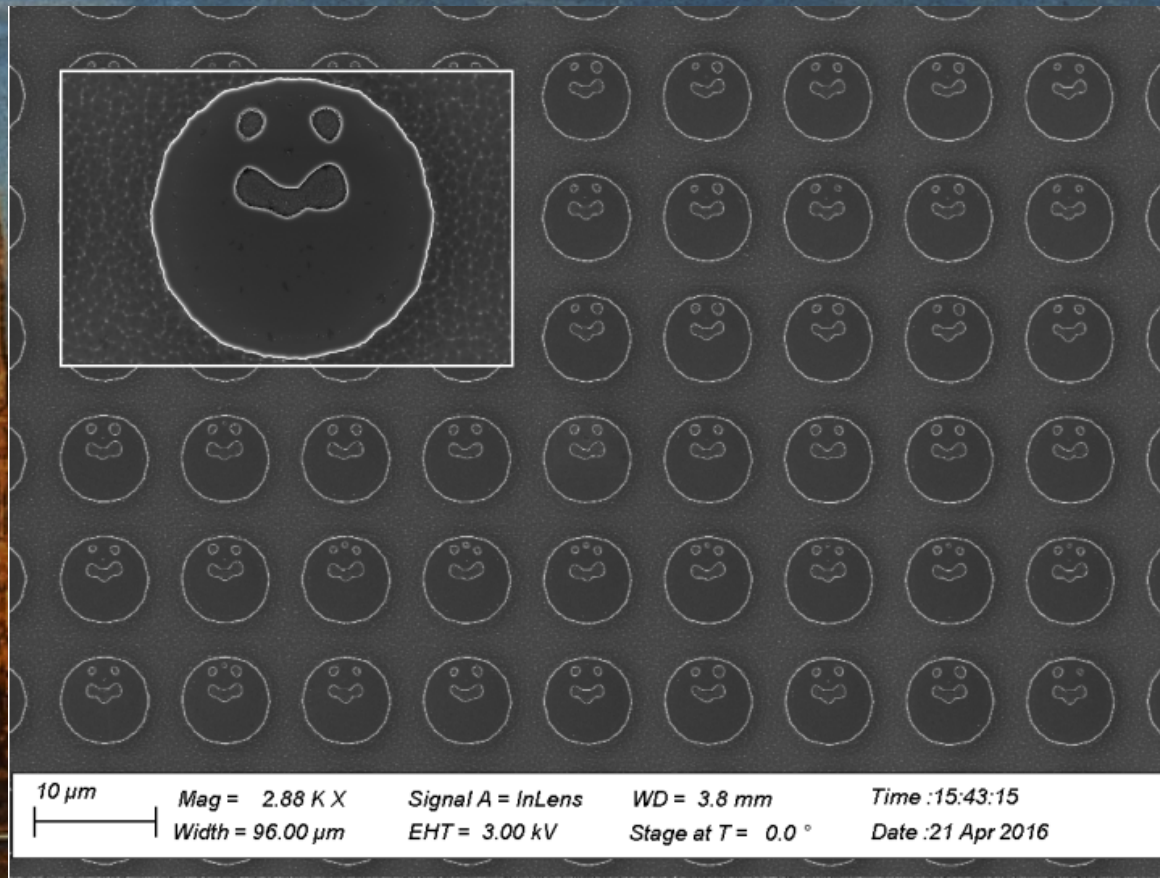
2016 Micro-Nano Graph ----- Contest -----

42

"Micro Smiley Community"

Description:

Reactive ion etched
micropillars with
wells of black silicon
on top.



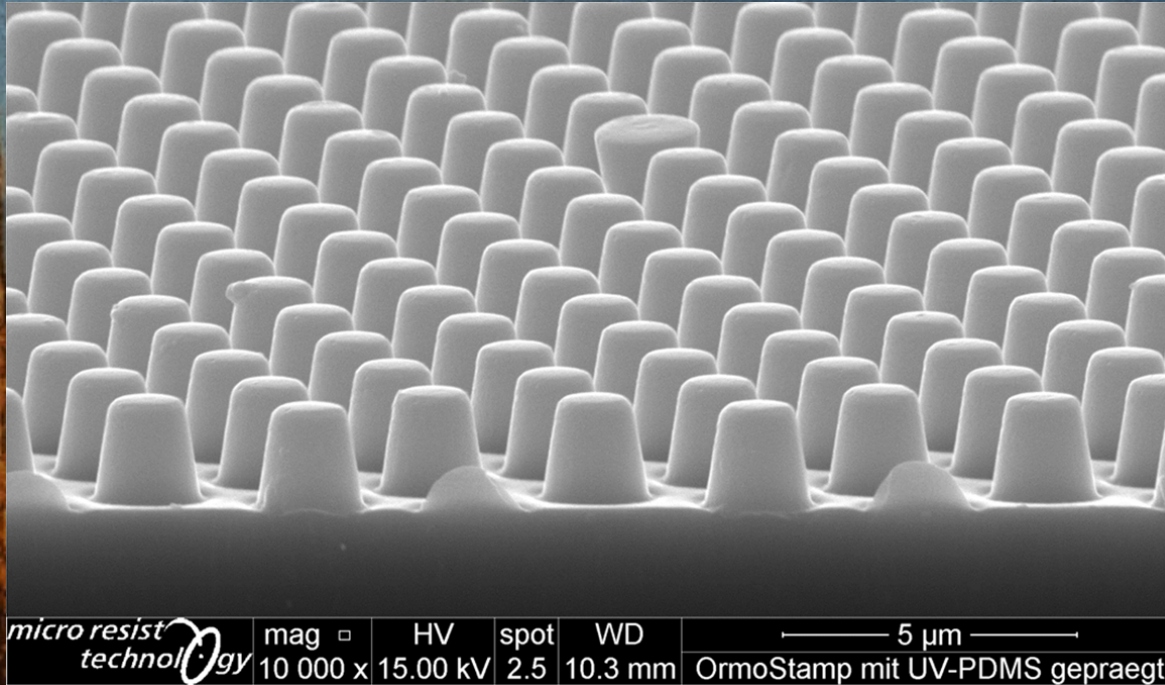
Submitted by: Nikolaj K. Mandsberg
Affiliation: DTU Nanotech

Instrument: Zeiss Supra 40VP
Magnification: 1062X

2016 Micro-Nano Graph Contest

43

*“Ah Hell, he's even
more punk than me”*



Description:
Single OrmoStamp®
pillar turned upside
down and placed
exactly at its ripp-off
position by accident
in an intact array of
micro-pillars



Submitted by: Manuel Thesen

Affiliation: micro resist technology GmbH

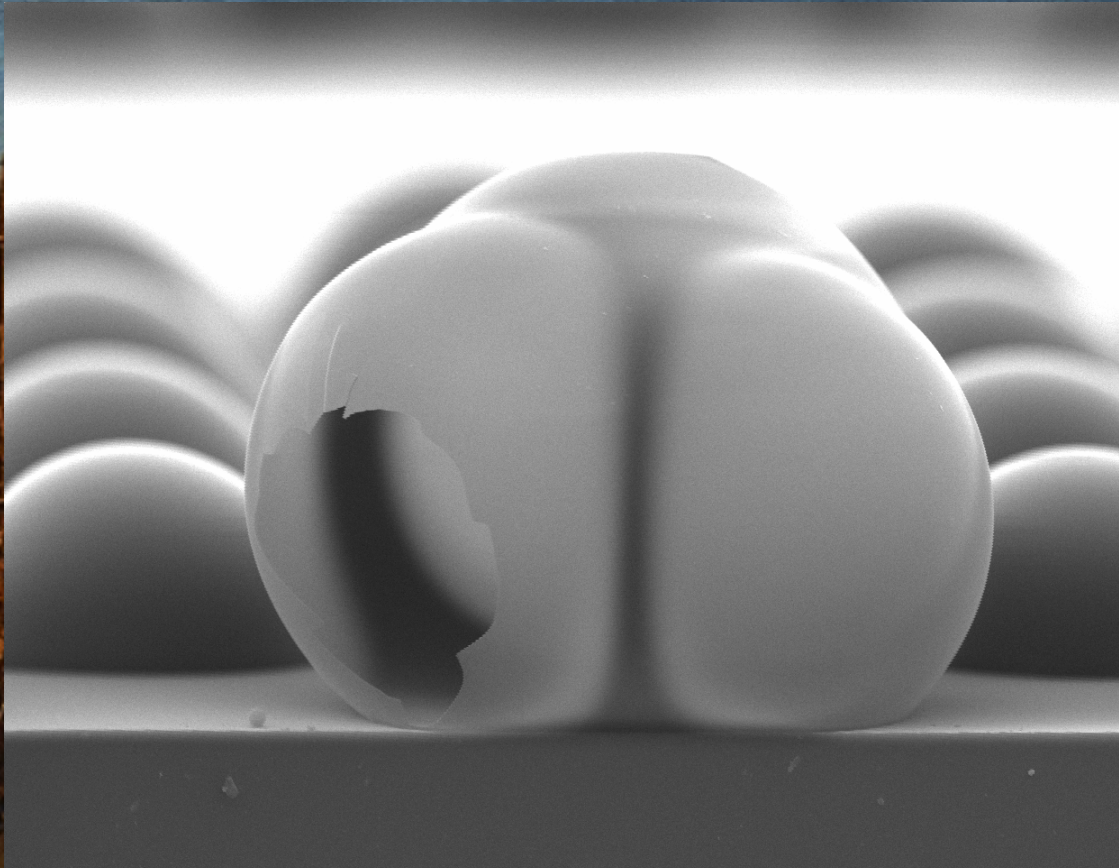
Instrument: FEI InspectS50

Magnification: 10.000 X

**2016 Micro-Nano Graph
Contest**

44

**"I worked my butt off
for this nice SEM"**



Description:

Reflow of positive
tone resist.



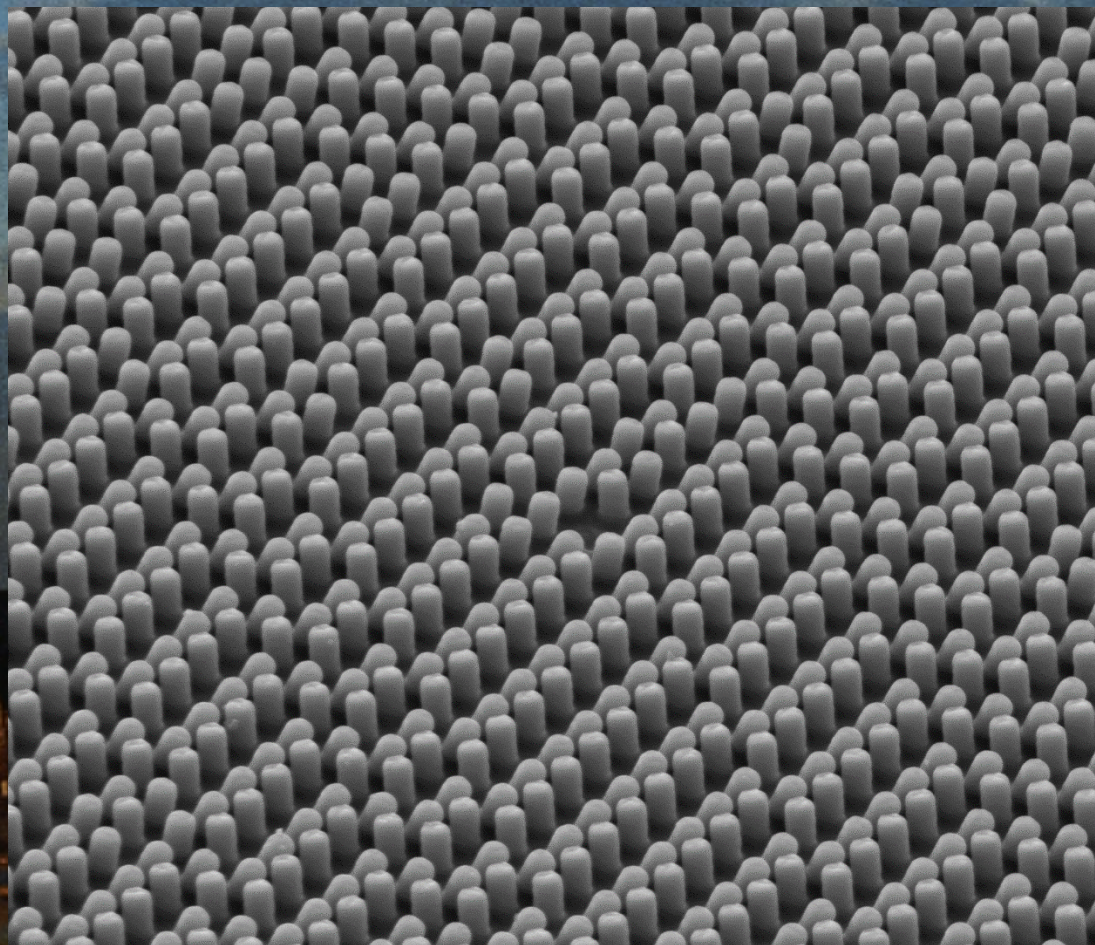
Submitted by: Arne Schleunitz & Susanne Gruetzner
Affiliation: micro resist technology GmbH

Instrument: Fei InspectS50
Magnification: 600 X

2016 Micro-Nano Graph Contest

45

“Tender Embrace Flashmob ”



Description:

Imprint of micro pillars in UV-curable hybrid polymer with PDMS stamp. Upon separation every second row bends forward to “hug” the opposite pillar.



Submitted by: Maria-Melanie Russew
Affiliation: micro resist technology GmbH

Instrument: FEI InspectS50
Magnification: 3.000

2016 Micro-Nano Graph Contest

46

“African ceremonial mask”



Description:

Positive Tone Resist structured by UV-lithography. The African ceremonial mask appeared during reflow.

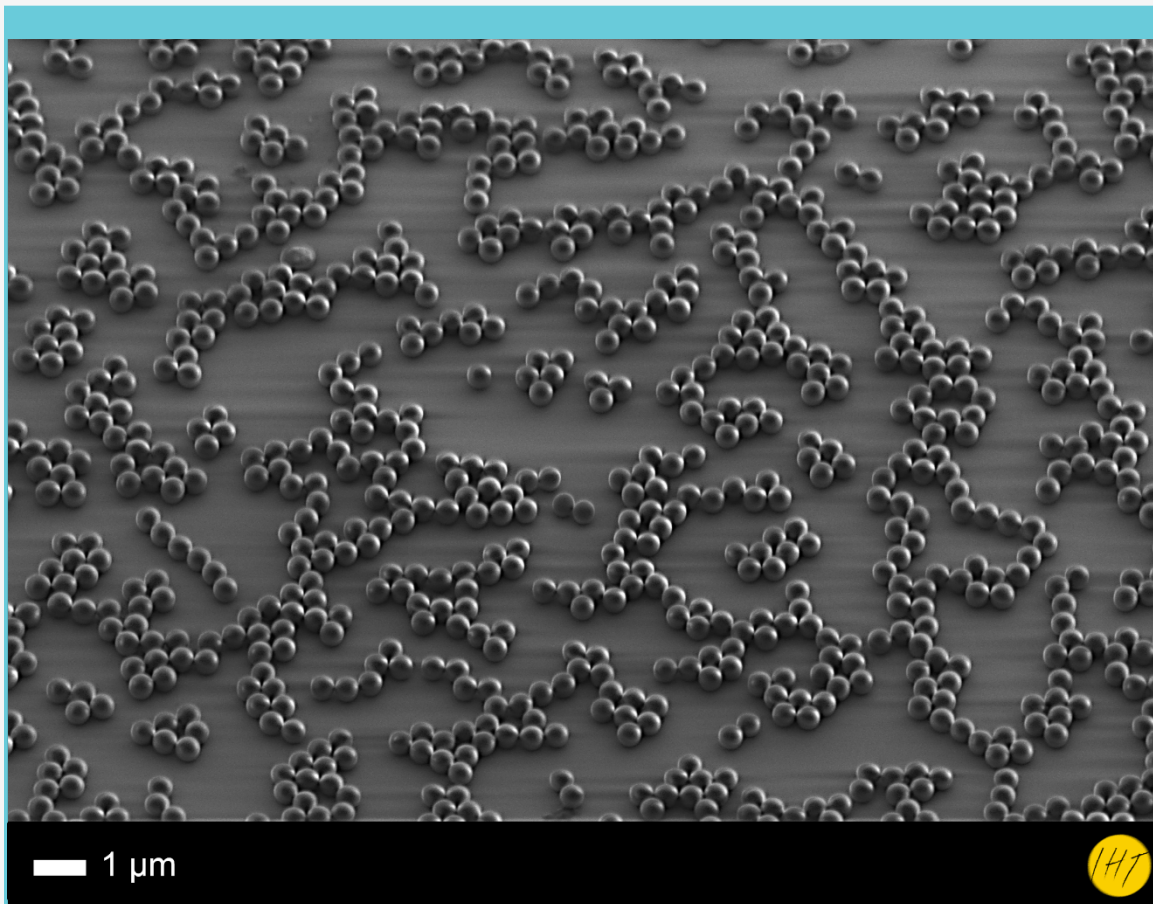


Submitted by: Maria-Melanie Russew
Affiliation: micro resist technology GmbH

Instrument: Olympus BX51M
Magnification: 5x

Description:

Tilted view of polystyrene particles prepared on silicon substrate as etch mask to fabricate silicon nanowires.



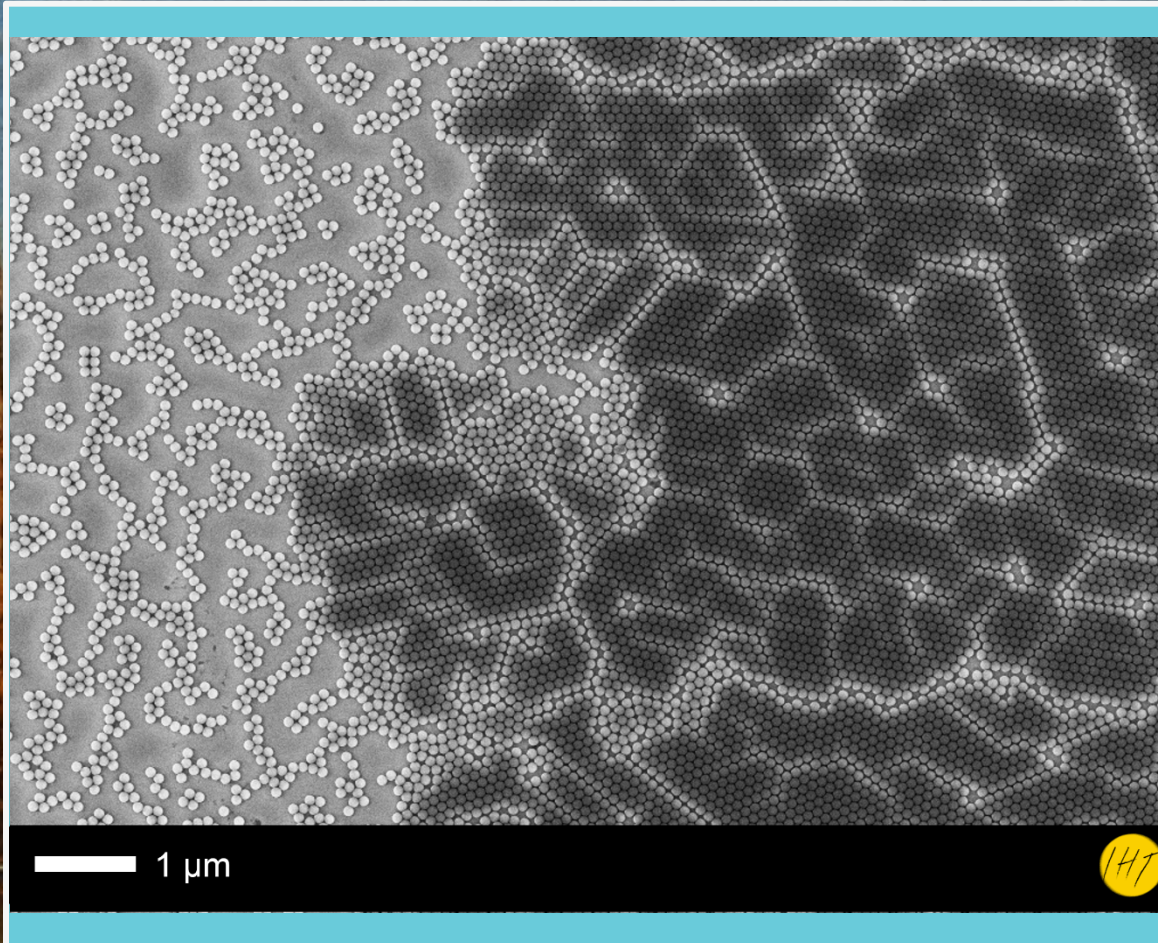
2016 Micro-Nano Graph Contest

48

“Unfinished home”

Description:

Top view of transition zone between array and non-ordered polystyrene particles on silicon substrate. The particle arrays looked like honeycomb structures made by the bees.

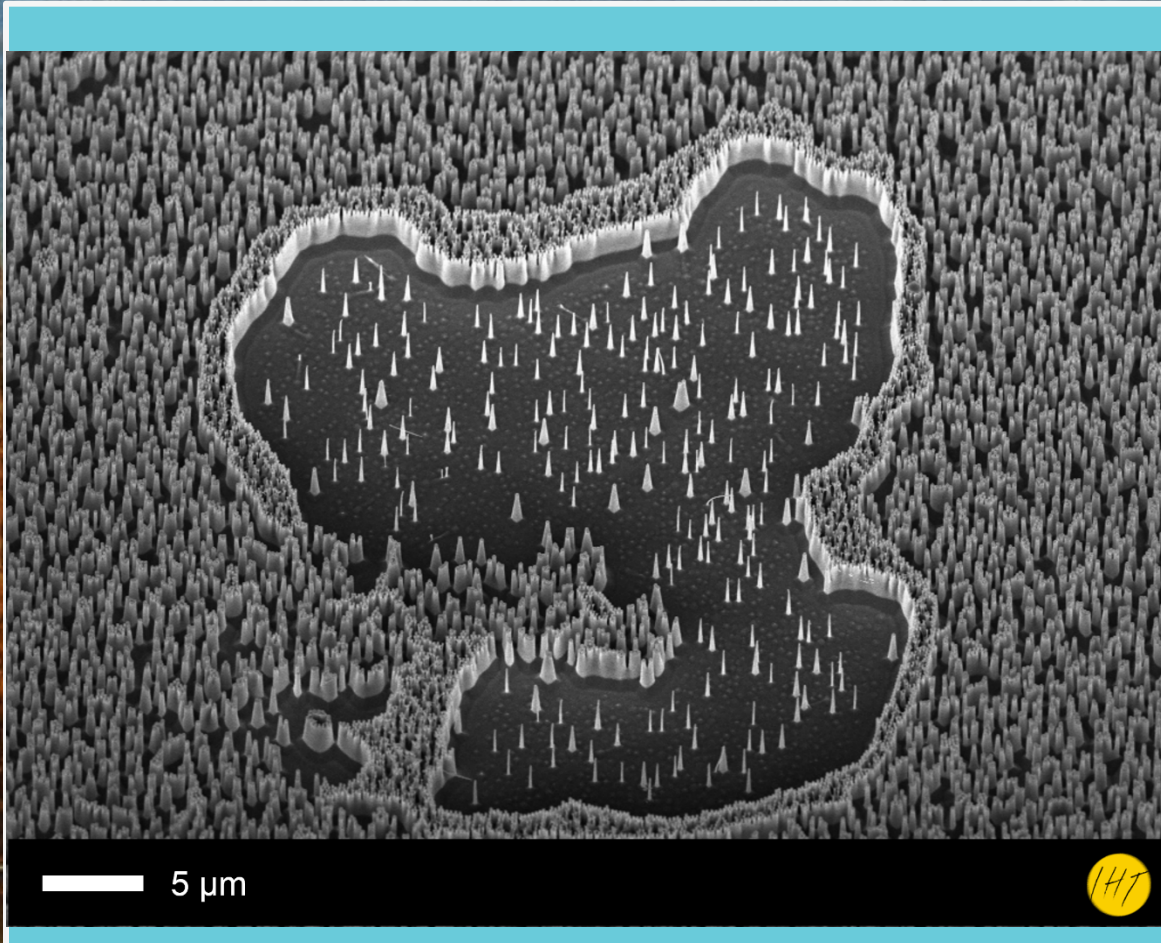


Submitted by: Gerry Hamdana
Affiliation: TU Braunschweig

Instrument: SEM Zeiss Supra 35
Magnification: 2 KX

Description:

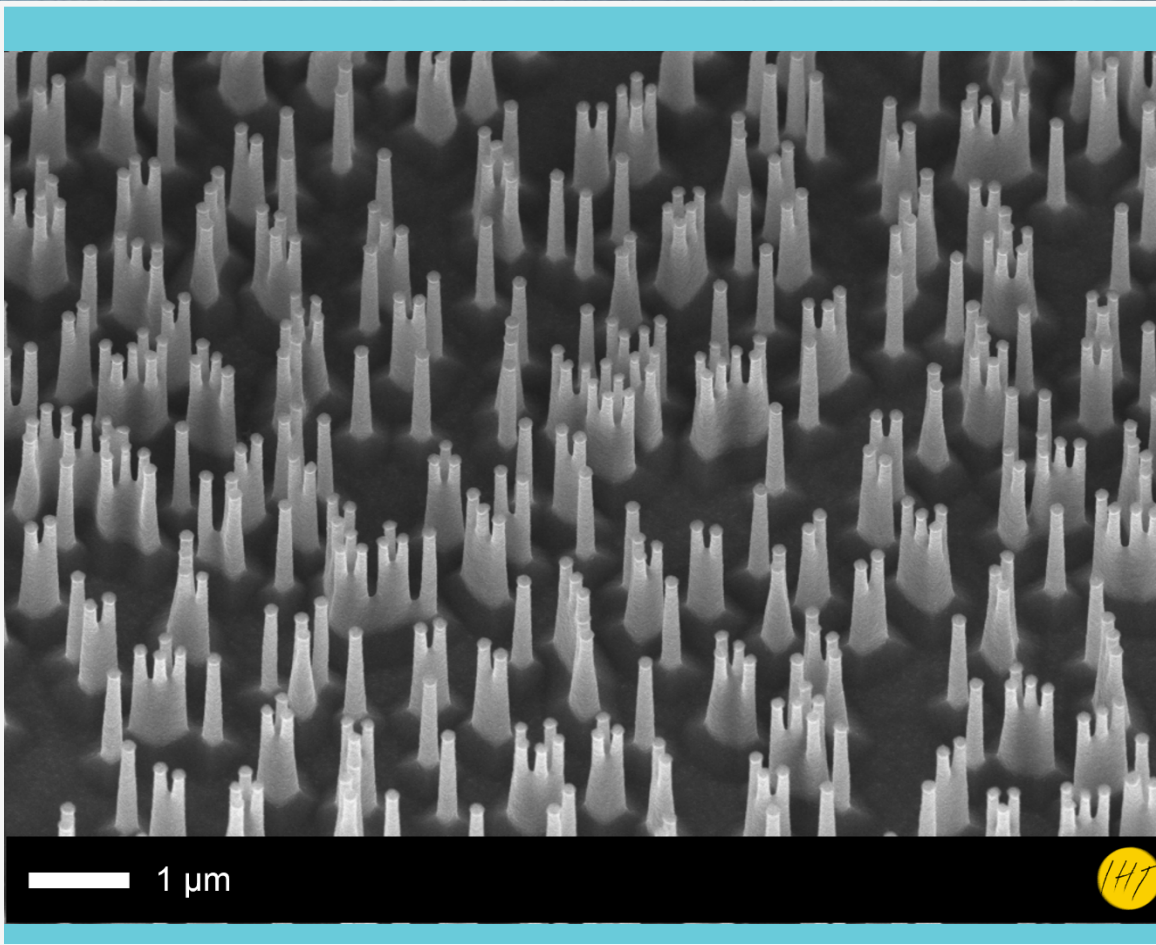
Dry etch result of silicon nanowire by polystyrene particles as etch mask with different substrate coverage area. The fabricated nanowires were unevenly distributed on the sample.



"Bird's eye view of the city"

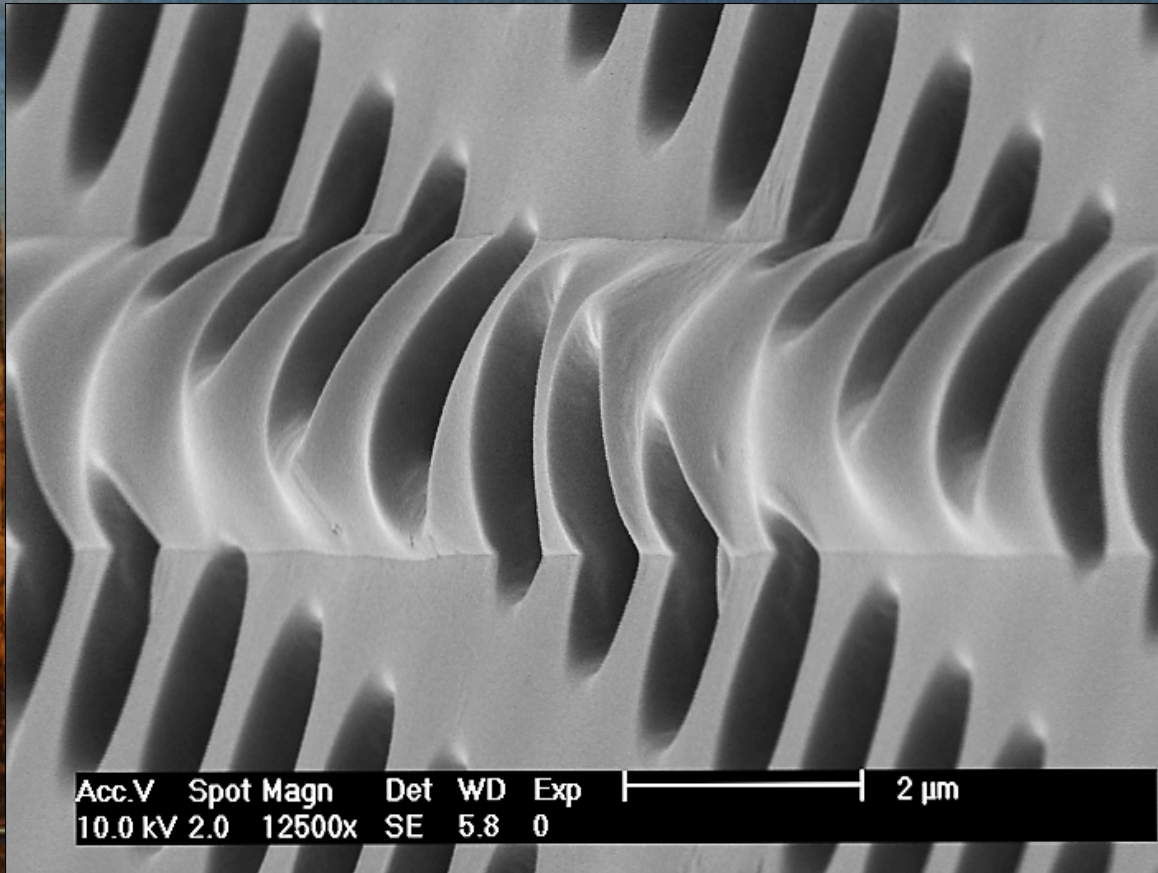
Description:

Tilted view of silicon nanowire prepared by dry etching at cryogenic temperature. The structures were prepared by polystyrene particles as etch mask.



Description:

SU-8 layer was provided with a hole pattern by using nanoimprint. Following by an VUV-treatment (172 nm) before imprinting a line pattern in the surface near cross-linked SU-8. The hole pattern stays stable.



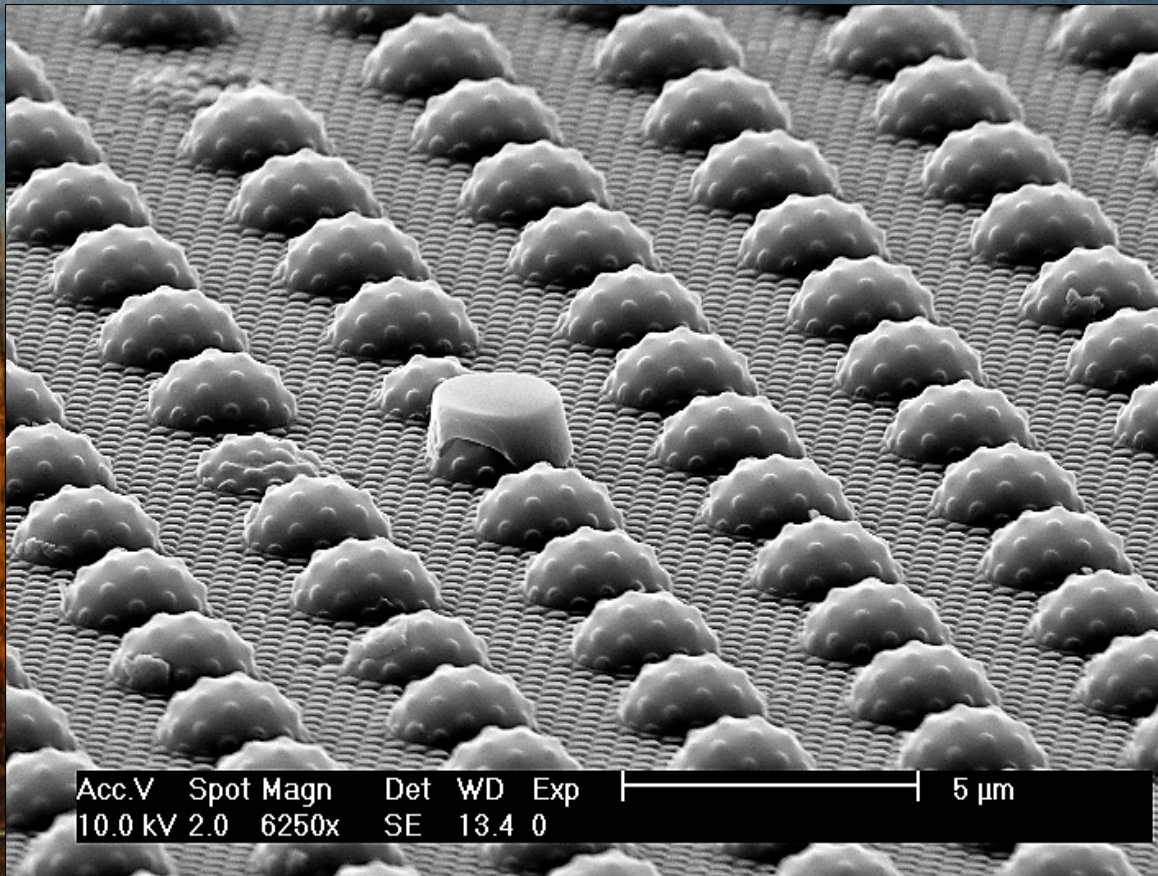
2016 Micro-Nano Graph Contest

52

“command in chief
of the bugs army”

Description:

SU-8 layer was provided with nano pillars by using nanoimprint. Following by an VUV-treatment (172 nm) before imprinting micro pillars in the surface near cross-linked SU-8. The cross-linked layer cracked so the micro pillars filled completely (middle).



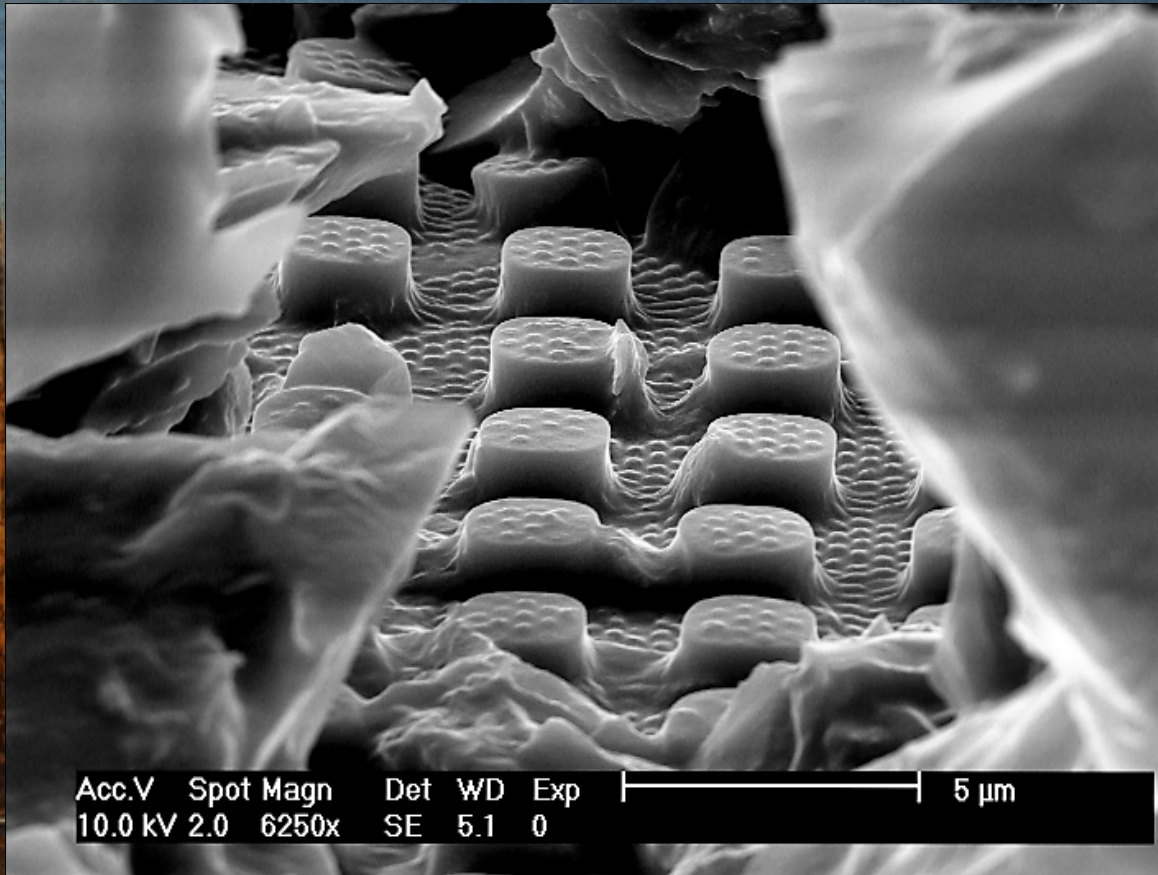
2016 Micro-Nano Graph Contest

53

“looking for the hidden
treasure structures”

Description:

Replication of complex structures in UV-PDMS. The separation (PDMS/master) of such structures is not so trivial. The master got stuck in the UV-PDMS. But fortunately we found some hidden complex structures.



Submitted by: Christian Steinberg
Affiliation: University of Wuppertal

Instrument: FEI XL 30S
Magnification: 6250 X

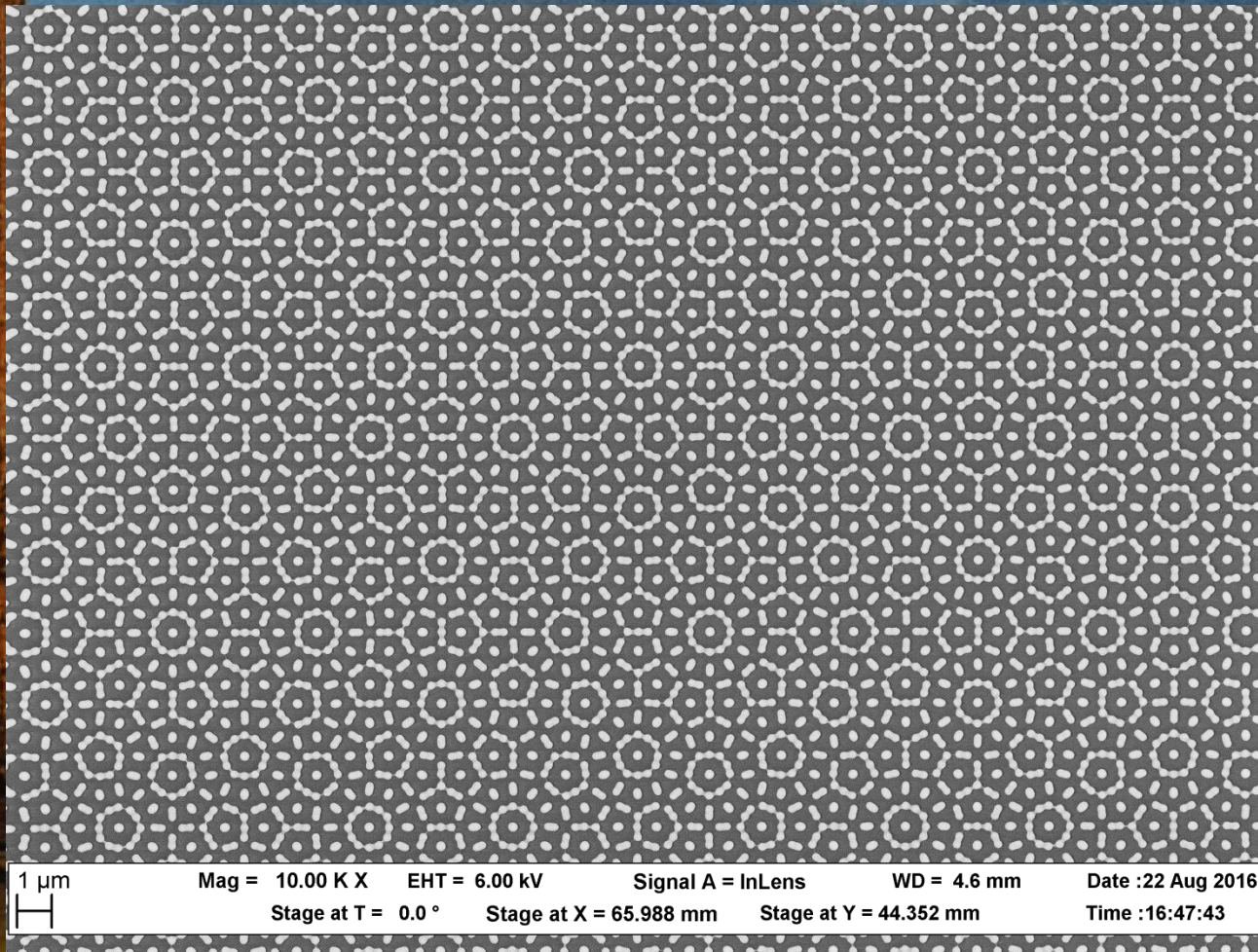
2016 Micro-Nano Graph Contest

54

“No, it doesn’t repeat”

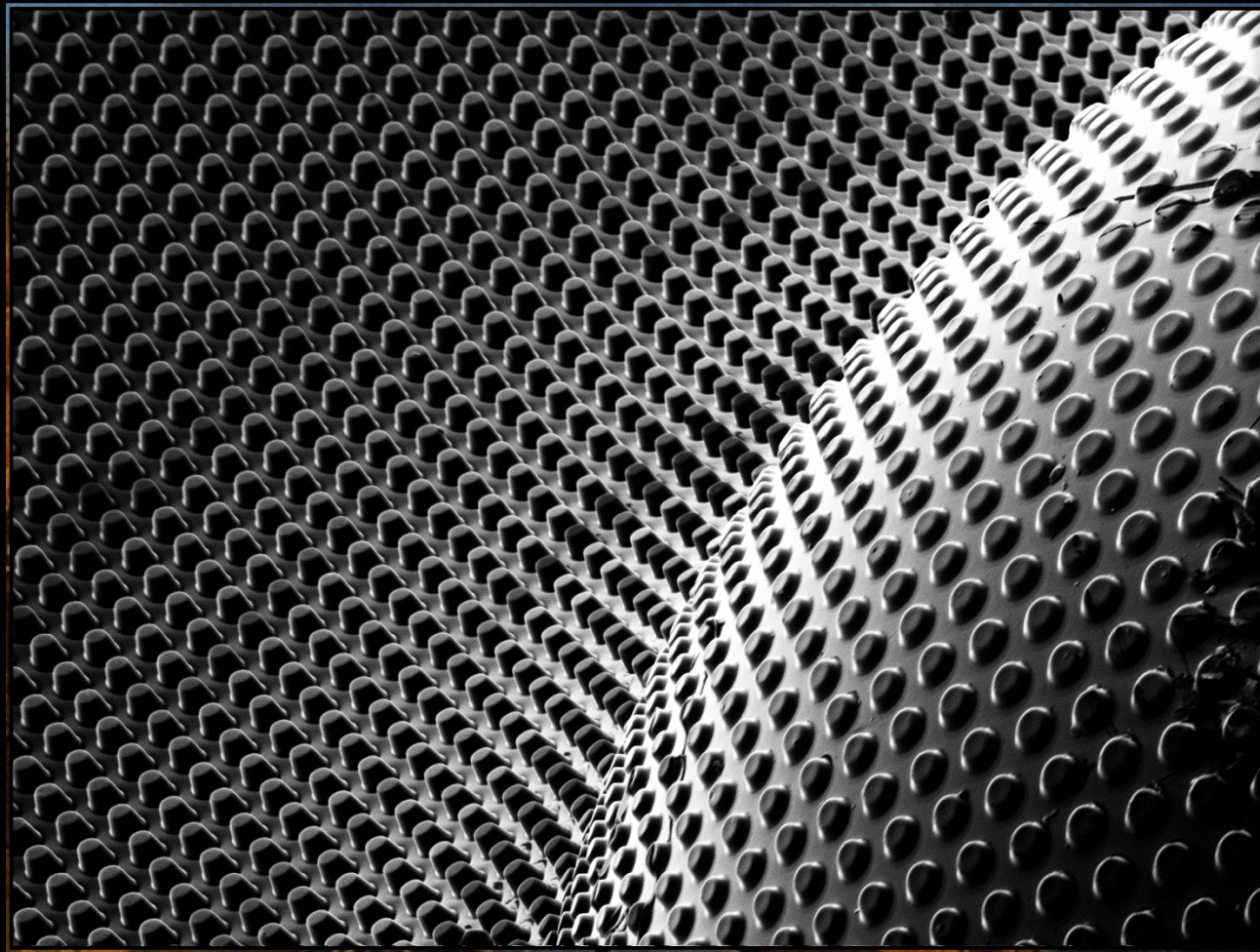
Description:

Quasi crystal
structure with 12-fold
rotational symmetry
obtained with
multiple-exposure
Displacement Talbot
Lithography



Submitted by: Christian Dais &
Harun Solak
Affiliation: EULITHA AG

Instrument: Make and Model
Magnification: 2500 X



Description:

Image shows a patterned curved surface fabricated with UV based soft nanoimprint lithography. The sphere has a diameter of around $100\mu\text{m}$ and the pillar pattern has a period of $2,5\mu\text{m}$. The soft stamp deforms around the object and patterns the whole surface.

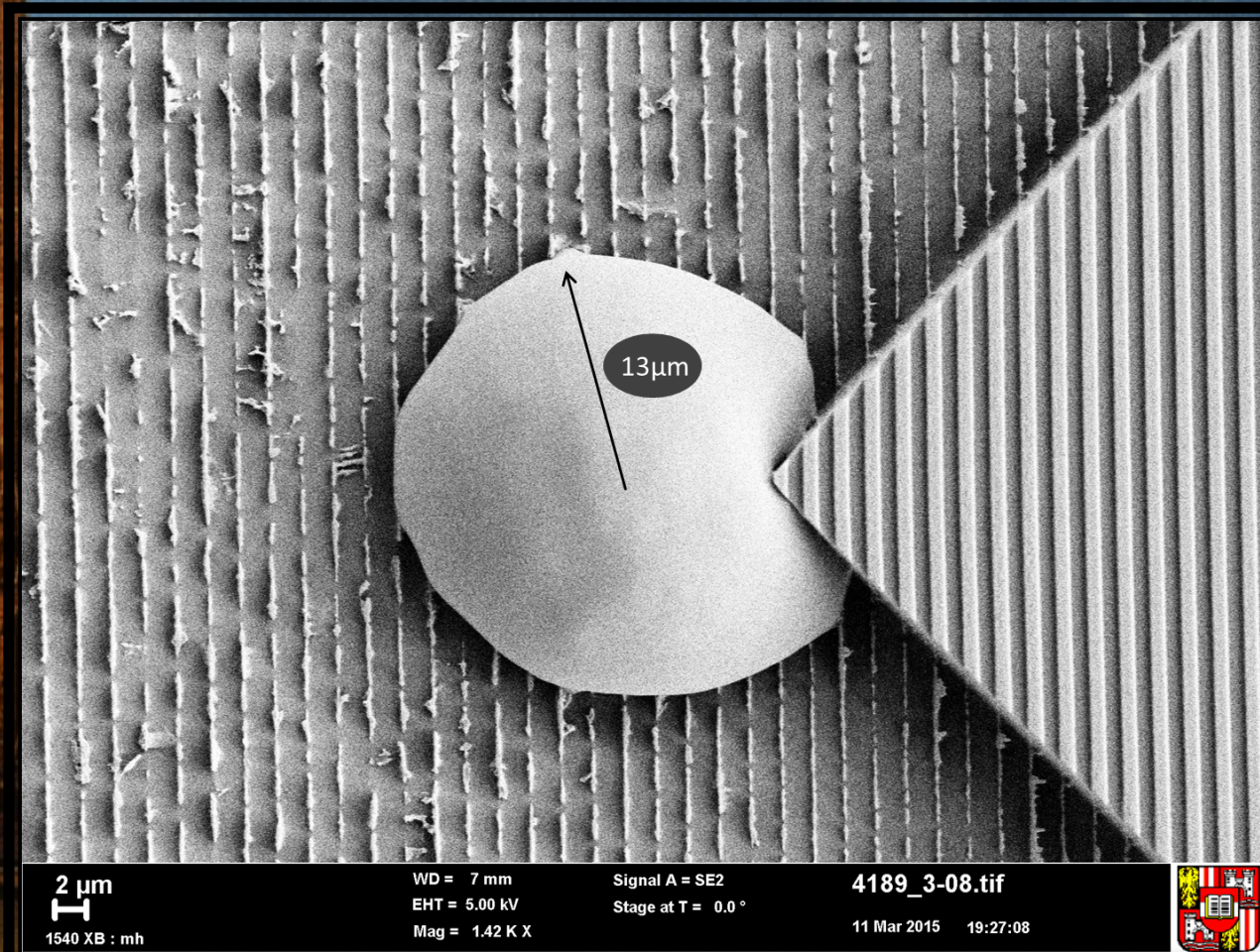
2016 Micro-Nano Graph ----- Contest -----

56

“It’s a packman”

Description:

An important step in nanoimprint lithography is the fabrication of copies of master stamp. The image shows an error in one copy step where an air inclusion occurred. Here the air inclusion is copied into a imprint material.

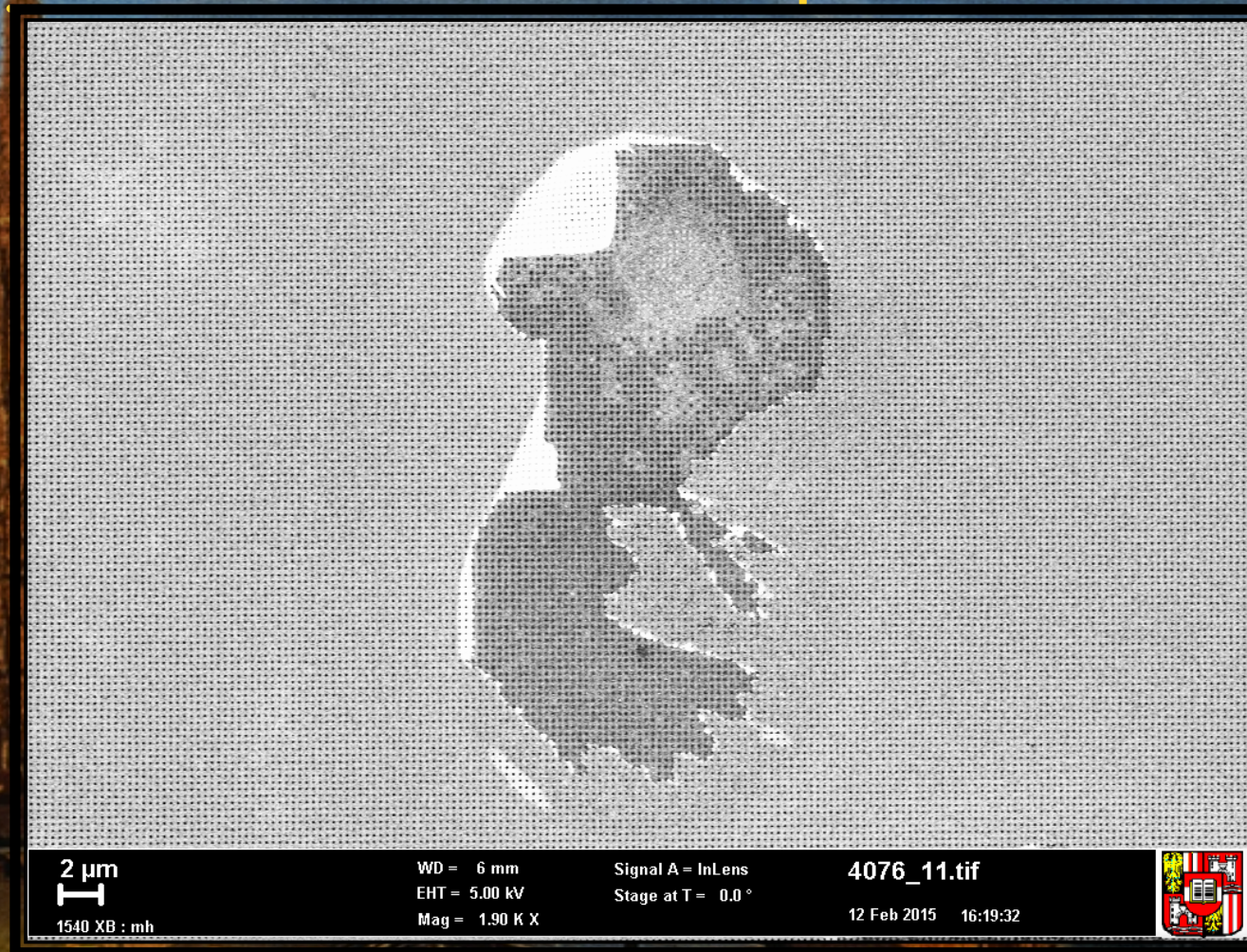


Submitted by: Michael J. Haslinger
Affiliation: Profactor GmbH

Instrument: ZEISS 1540XB CrossBeam
Magnification: 1.42 K X

Description:

This SEM image shows a defect in a metallic nanomesh produced with nano imprint lithography followed by a metal deposition and a wet chemical liftoff process. The upper layer of the metal/insulator/metal nanomesh is detached.



2 μ m



1540 XB : mh

WD = 6 mm

EHT = 5.00 kV

Mag = 1.90 K X

Signal A = InLens

Stage at T = 0.0 °

4076_11.tif

12 Feb 2015 16:19:32



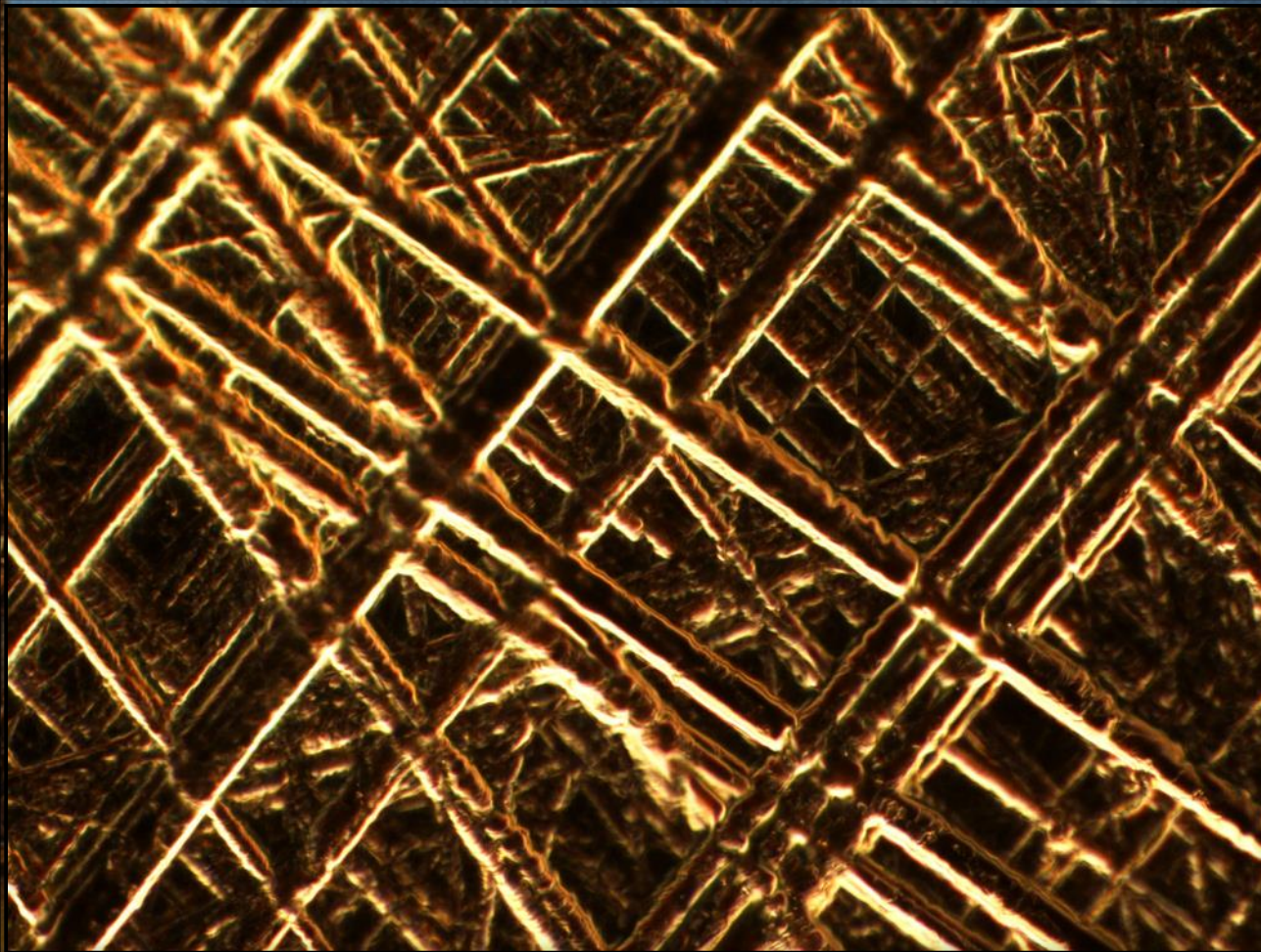
**2016 Micro-Nano Graph
----- Contest -----**

58

“Scratch”

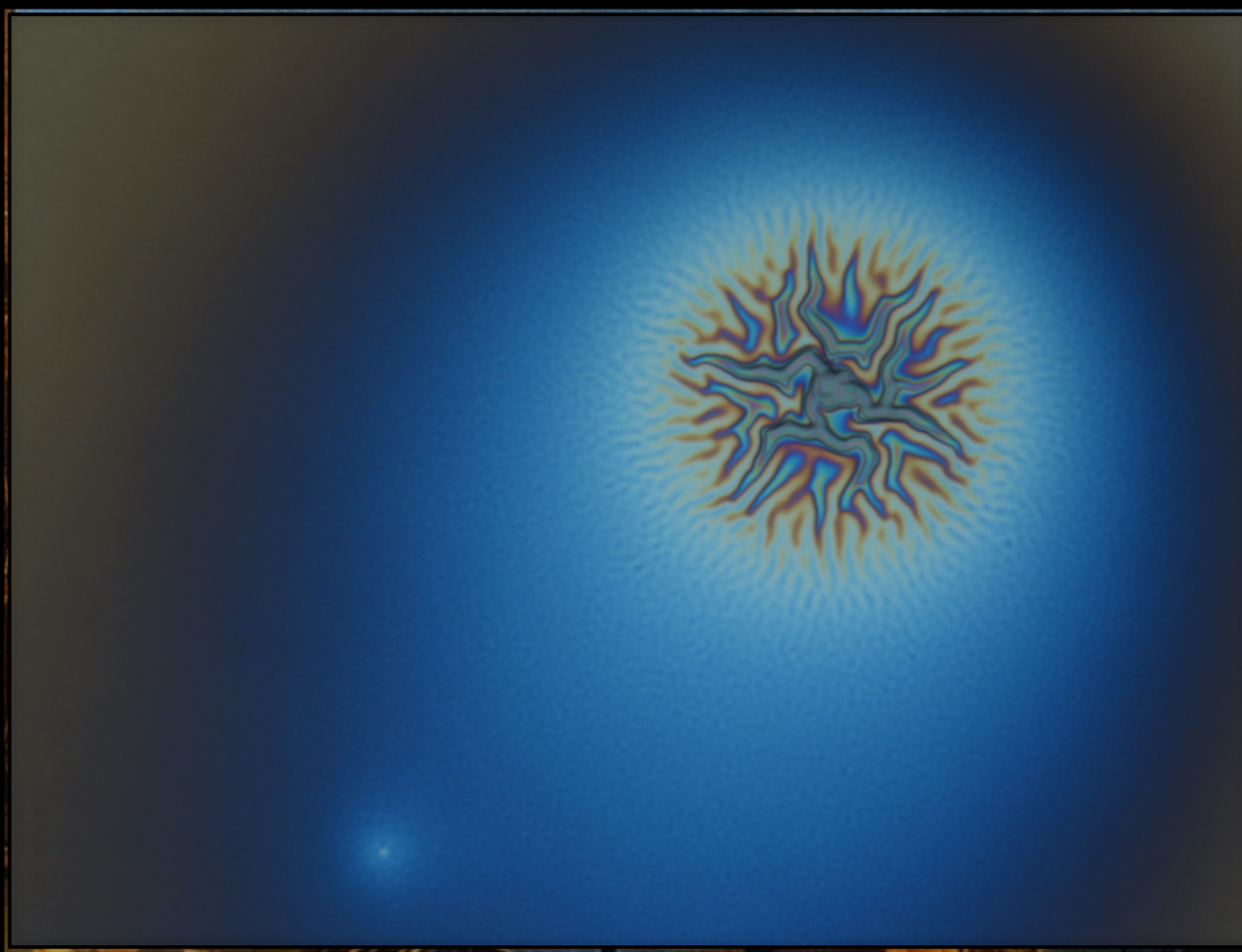
Description:

The optical microscope image shows scratches from a scalpel on a PMMA surface.



Submitted by: Michael J. Haslinger
Affiliation: Profactor GmbH

Instrument : Nikon Eclipse LV150 mit DS-5M



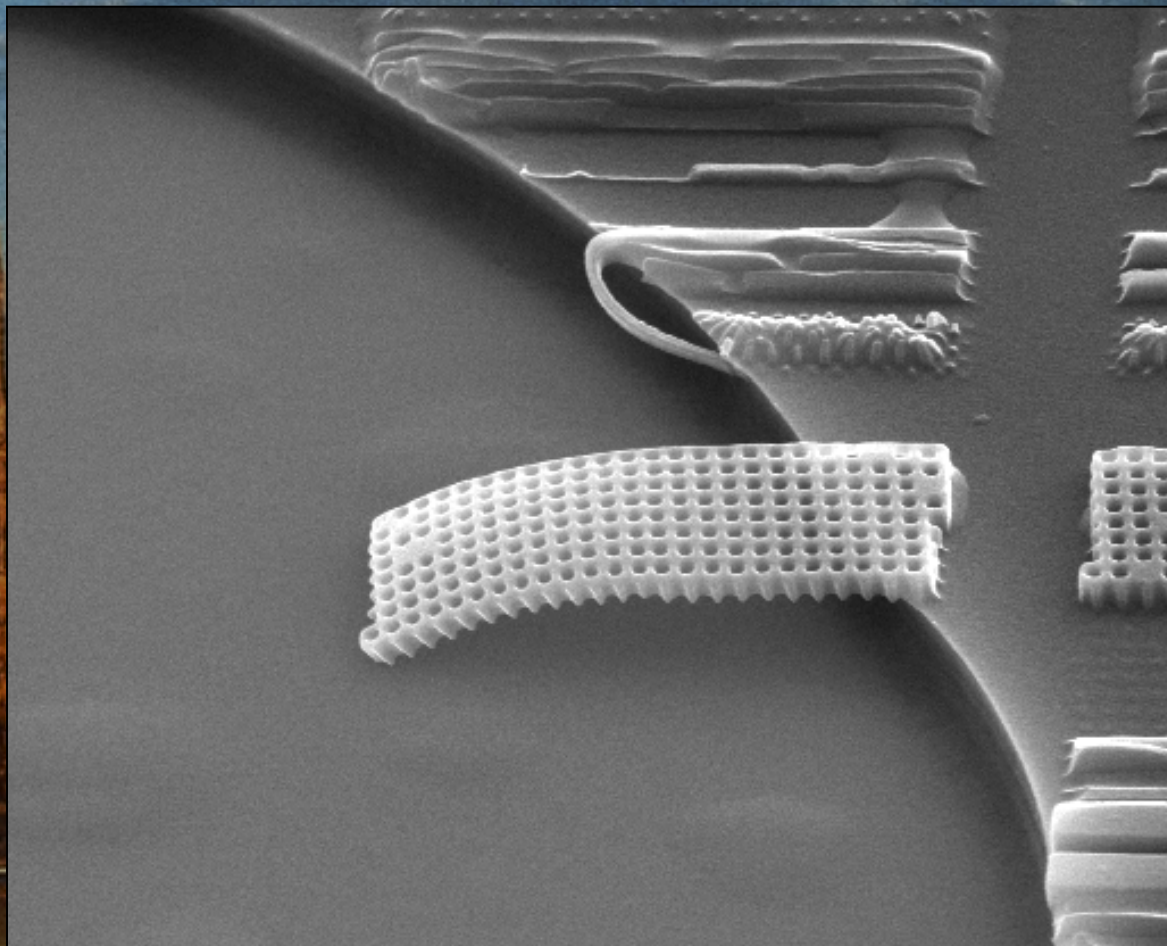
Description:

The optical microscope image shows some interesting capillary effects of a nanoimprint resist after spin coating on a Si-wafer.

Description:

Bended spring board
after a jump into a
swimming pool

(PUA replica stamp
with an air bubble)



**2016 Micro-Nano Graph
----- Contest -----**

61

“Nails anyone?”

Description:

Ever had need for nails for assembling your own microhouse? Look no further! Silicon micronails available now in your local micro-DIY store!



Submitted by: Ville Rontu
Affiliation: Aalto University

Instrument: Zeiss Supra 40
Magnification: 522 X

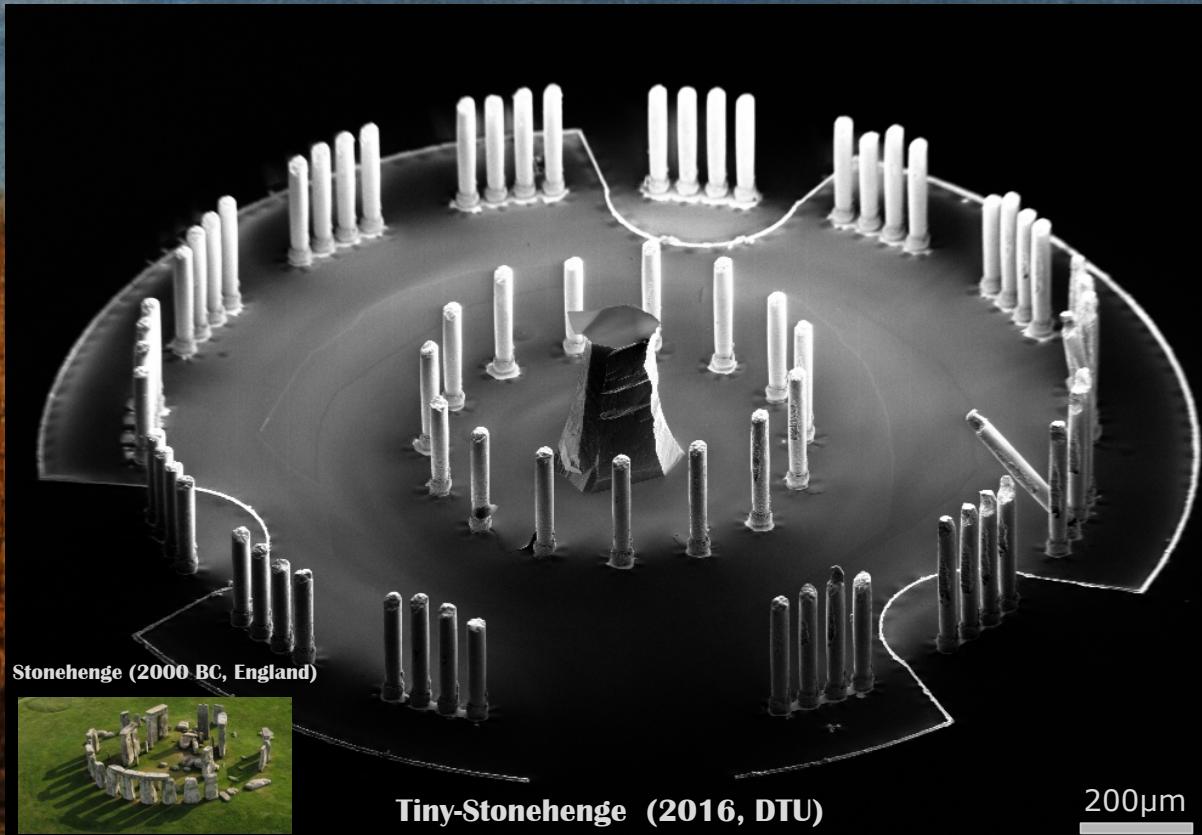
2016 Micro-Nano Graph Contest

62

"Tiny-Stonehenge"

Description:

The skeleton of copper pillars. After electroplating, silicon substrate is removed leaving the copper-filled through-silicon vias.



Stonehenge (2000 BC, England)



Tiny-Stonehenge (2016, DTU)

200µm



Submitted by: Hoa Thanh le

Instrument: ZEISS Supra 40VP SEM

Affiliation: Technical University of Denmark Magnification: ??? X

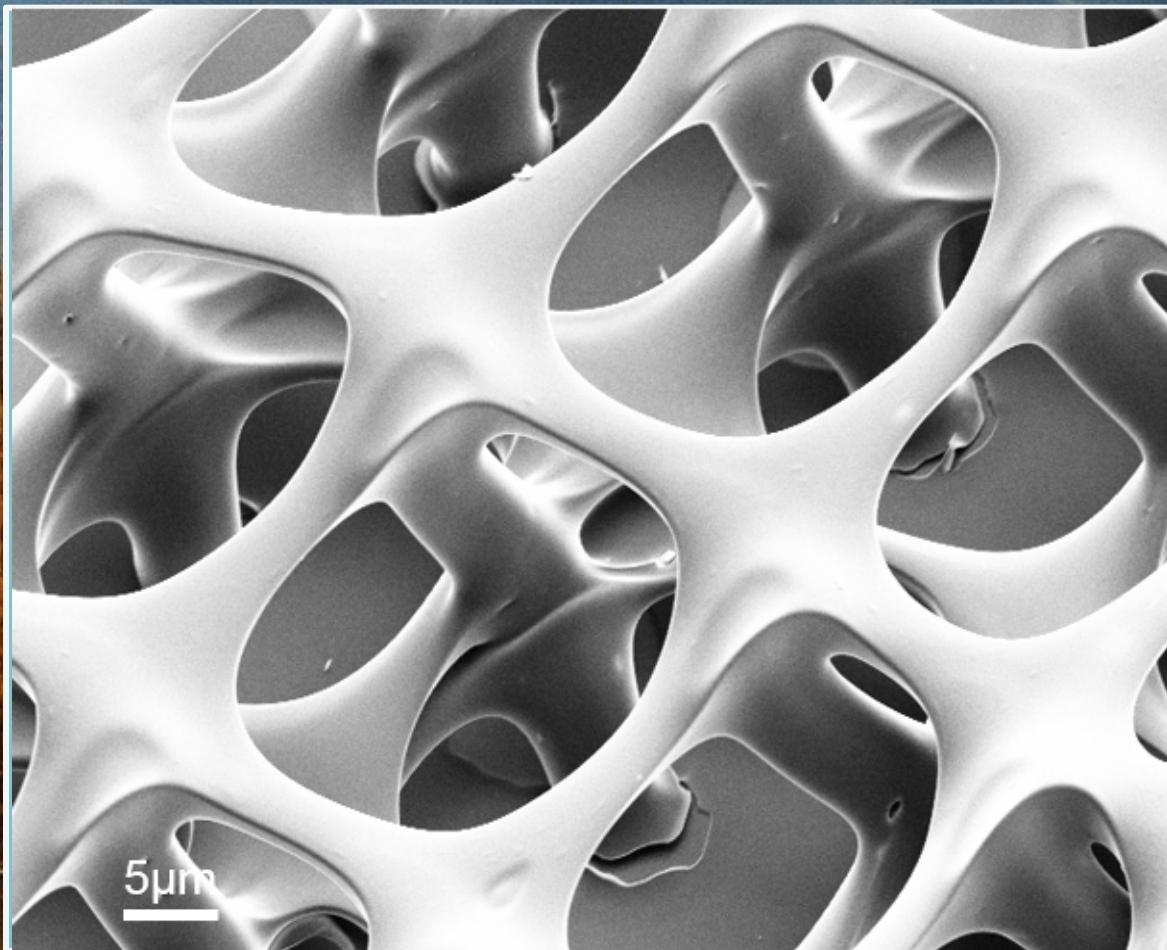
**2016 Micro-Nano Graph
Contest**

63

“LAByrinth”

Description:

It's a 3D pyrolyzed carbon LAByrinth 😊



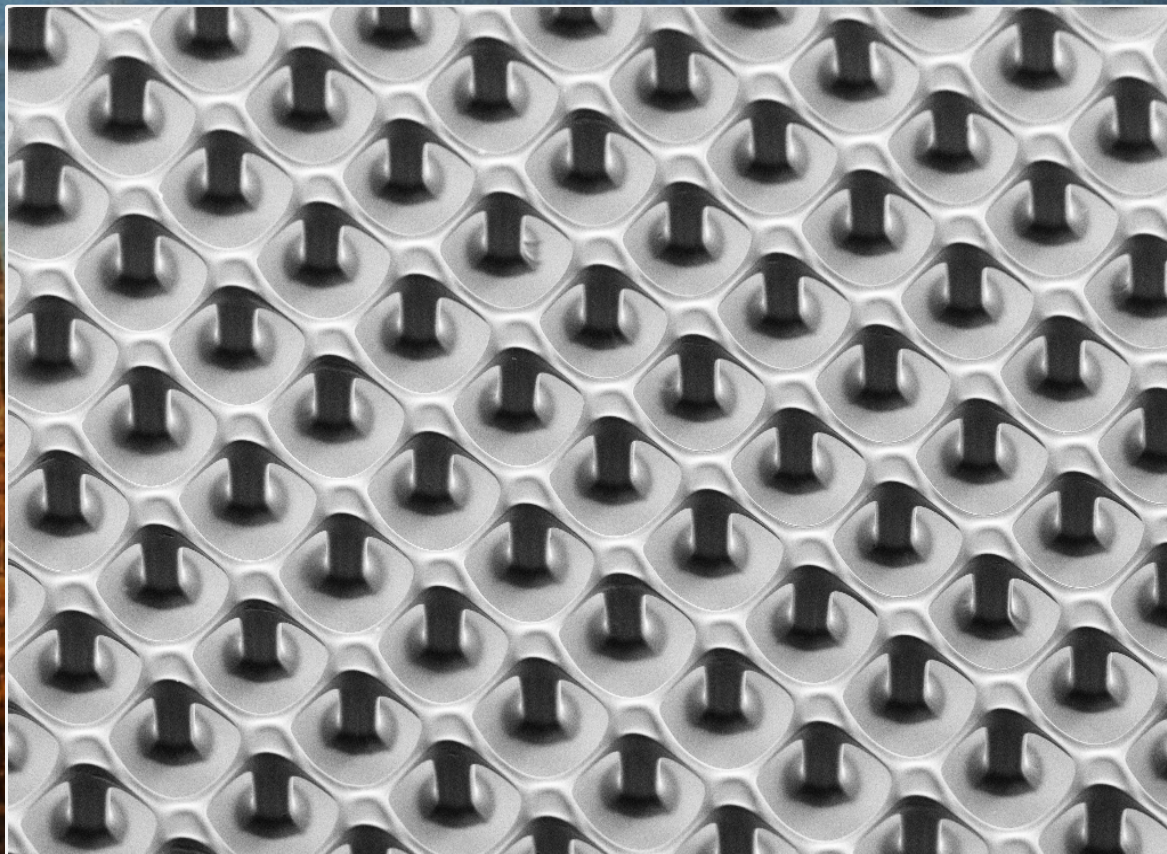
Submitted by: Suhith Hemanth
Affiliation: DTU, Nanotech

Instrument: Supra 40VP SEM
Magnification: 700X

"On the shoulders of giants"

Description:

Carbon 3D
structures



20 μm



EHT = 5.00 kV

WD = 7.1 mm

Signal A = SE2

Mag = 676 X

Stage at T = 37.1 °

Width = 443.8 μm

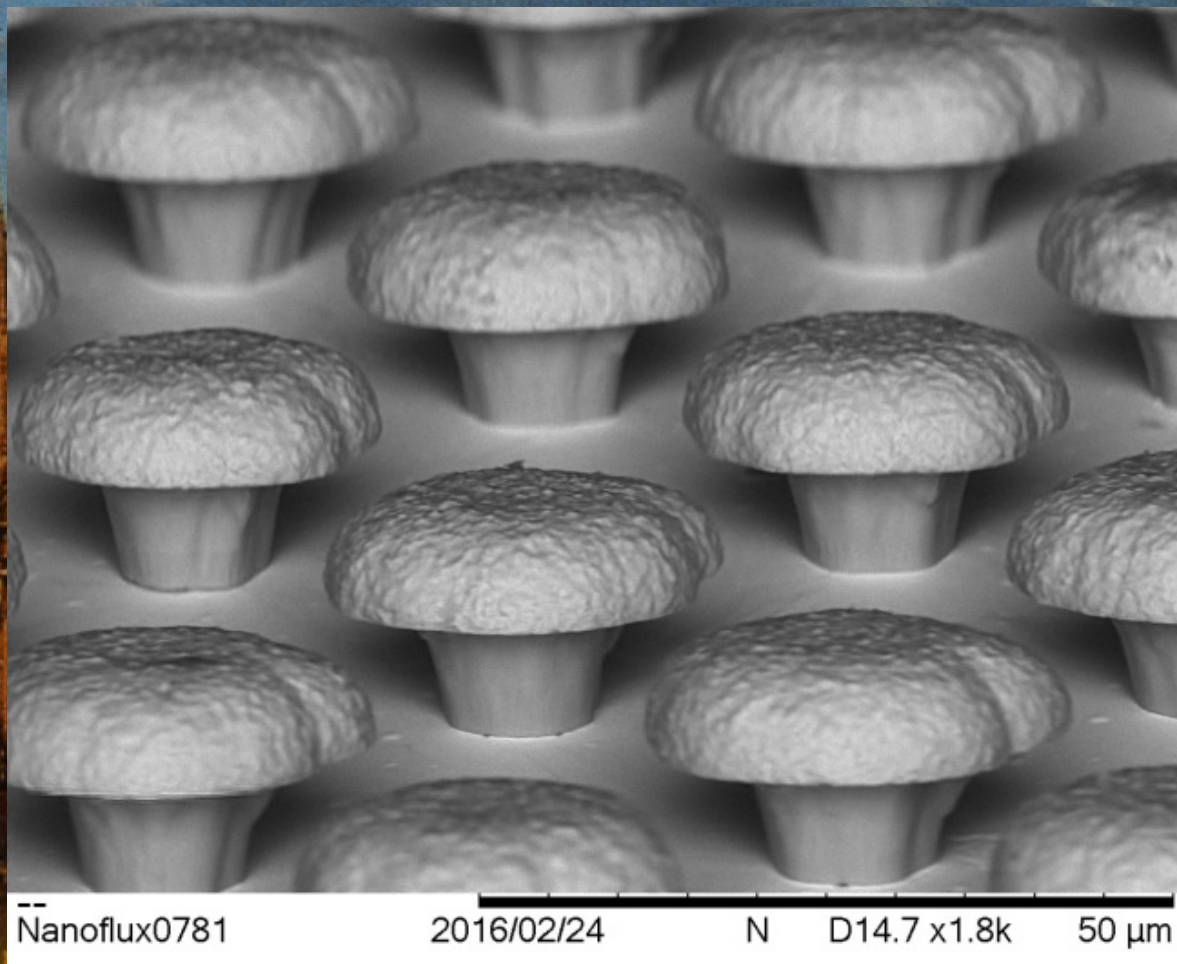
Date :10 Jun 2015

Time :23:22:39

Description:

“Nothing is
lost, nothing is
created,
everything is
transformed”
A. Lavoisier





Description:

Micromushrooms were made during Ni electroplating on AZ 9260 microwells by just an electroplating time elongation. By adjusting time, we can “cultivate” micromushrooms in different growth peroids.

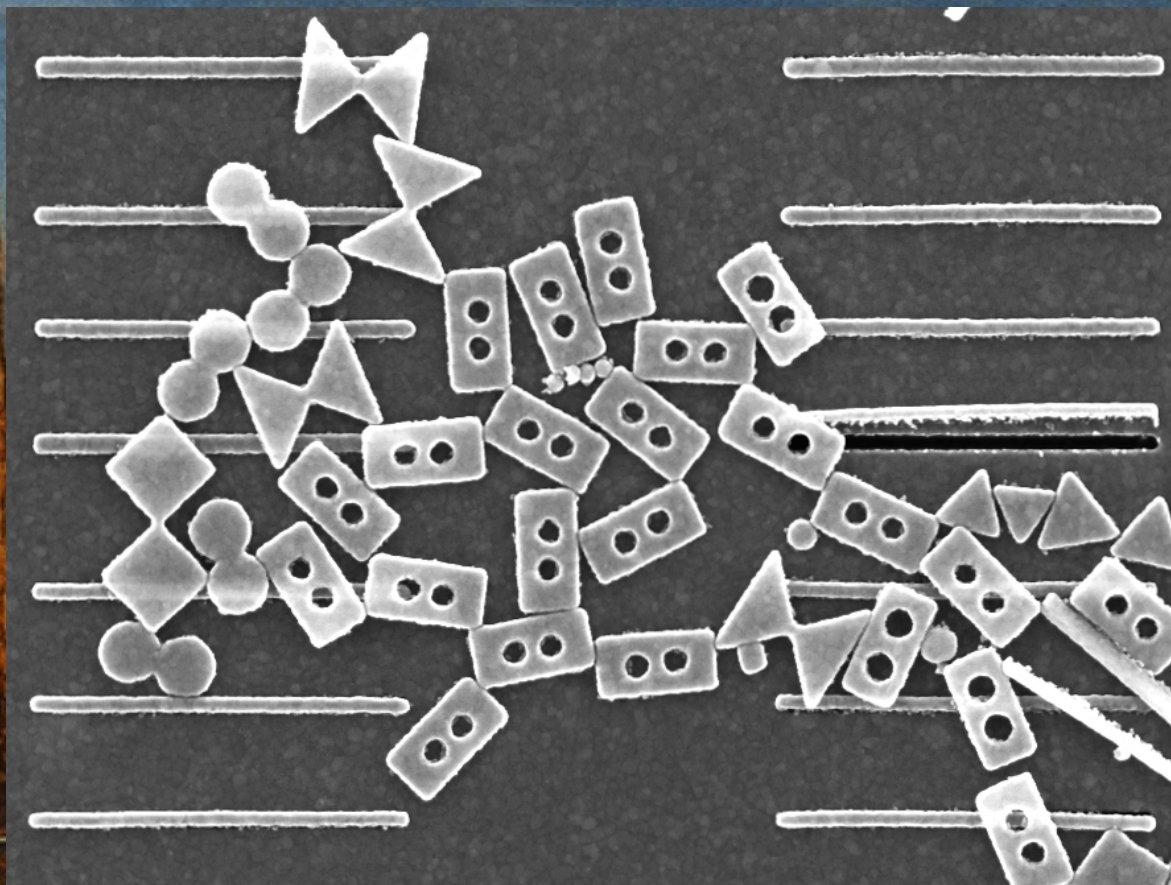


Description:

With the lack of adhesion layers a sputtered tungsten film delaminated from the substrate creating this desert-like landscape. The sample was cleaved and imaged close to grazing incidence. The debris from the sample SEM preparation resulted in this lonesome nomad looking for his next bright idea to become nanorich and microfamous!

Description:

After electron beam lithography and evaporation of gold, the last lift-off processing step went catastrophically wrong with the delamination of most structures bringing chaos into the nanoworld of plasmonic antennas!



“Nanochick”

Description:

With the lack of adhesion layers a sputtered tungsten film delaminated from the substrate creating this desert-like landscape. The sample was cleaved and imaged close to grazing incidence. The debris from the sample SEM preparation resulted in this nanochick looking for some nanoseeds!



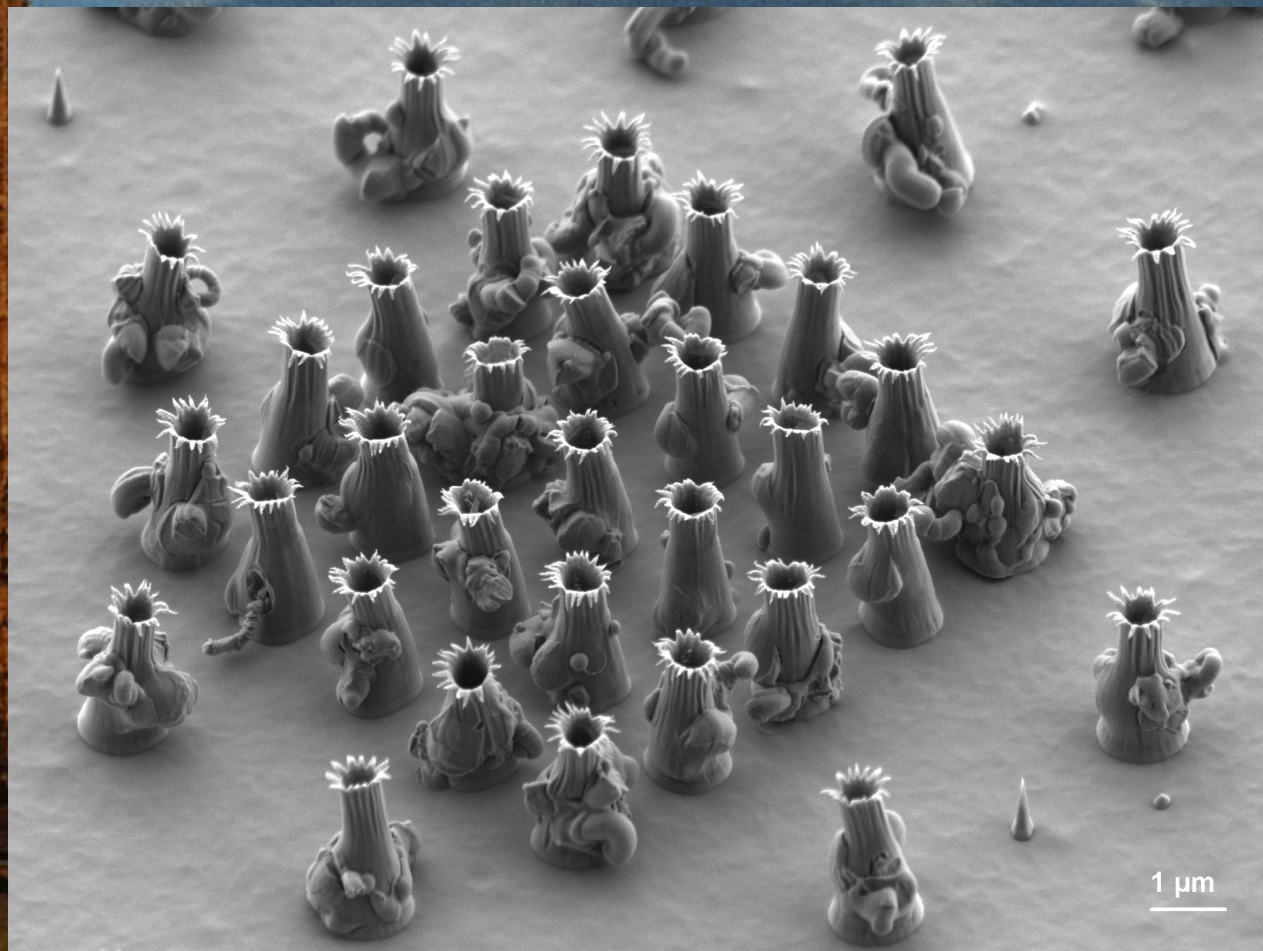
2016 Micro-Nano Graph Contest

70

“Sunflower party”

Description:

Metallic nano-flowers generated by IBE and RIE of an Al-Ti-Au-Ti coated wafer, patterned with standard photolithography. After etching, the resist is removed, the stress in the fences is released leading to the formation of the wavy stem/leaves of the flower.



Submitted by: Valentin Flauraud & Benoit Desbiolles
Affiliation: EPFL LMIS1 Switzerland

Instrument: Zeiss Merlin
Magnification: 7000 X

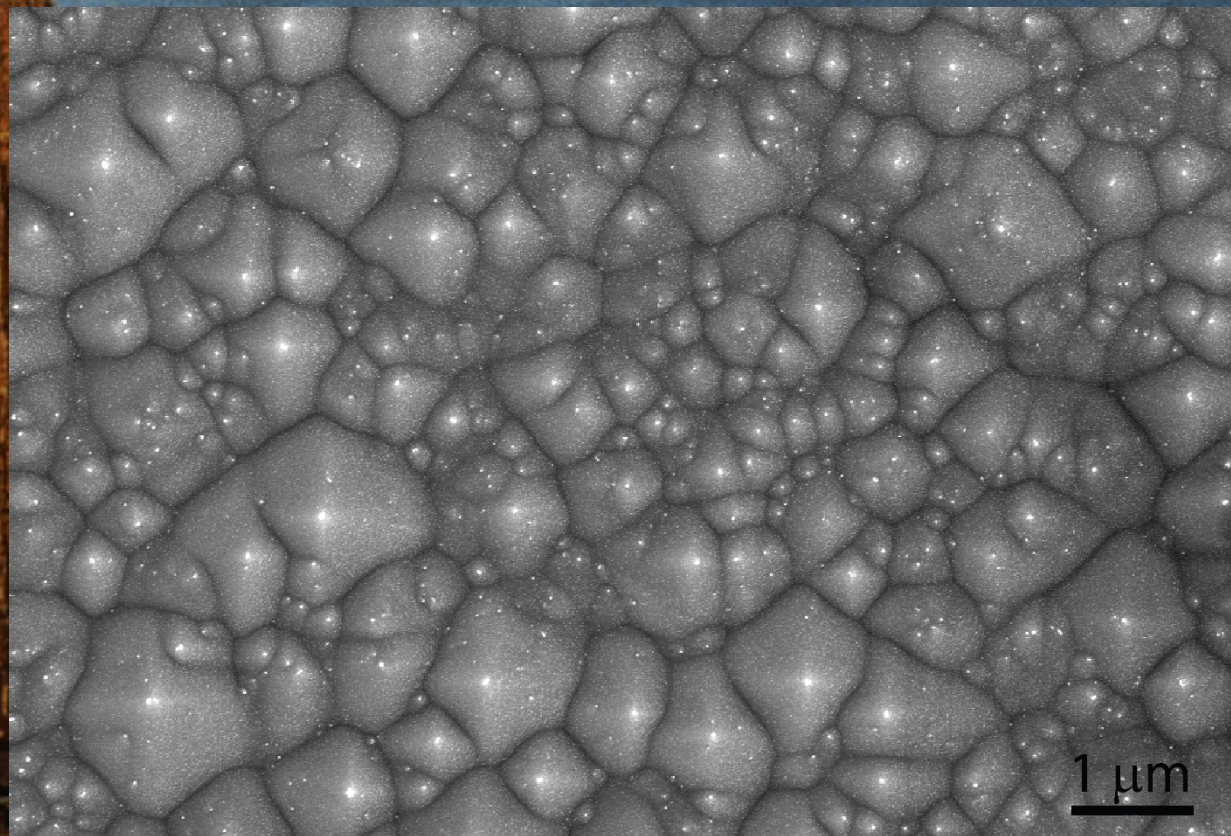
**2016 Micro-Nano Graph
Contest**

71

"Silicon Light"

Description:

Silicon surface after isotropic reactive ion etching.

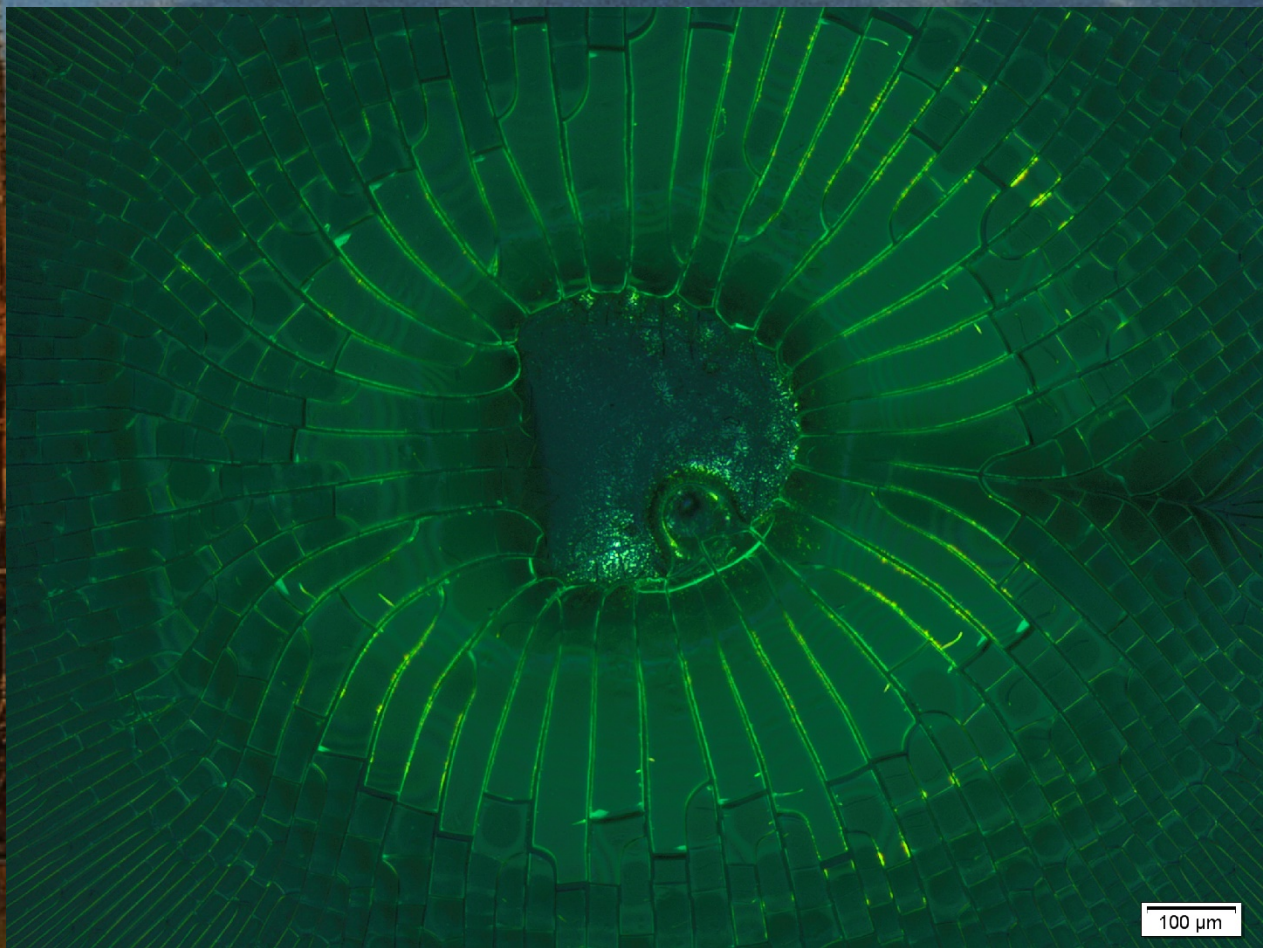


Submitted by: Tom Larsen
Affiliation: ANEMS - EPFL

Instrument: Carl Zeiss SEM

Description:

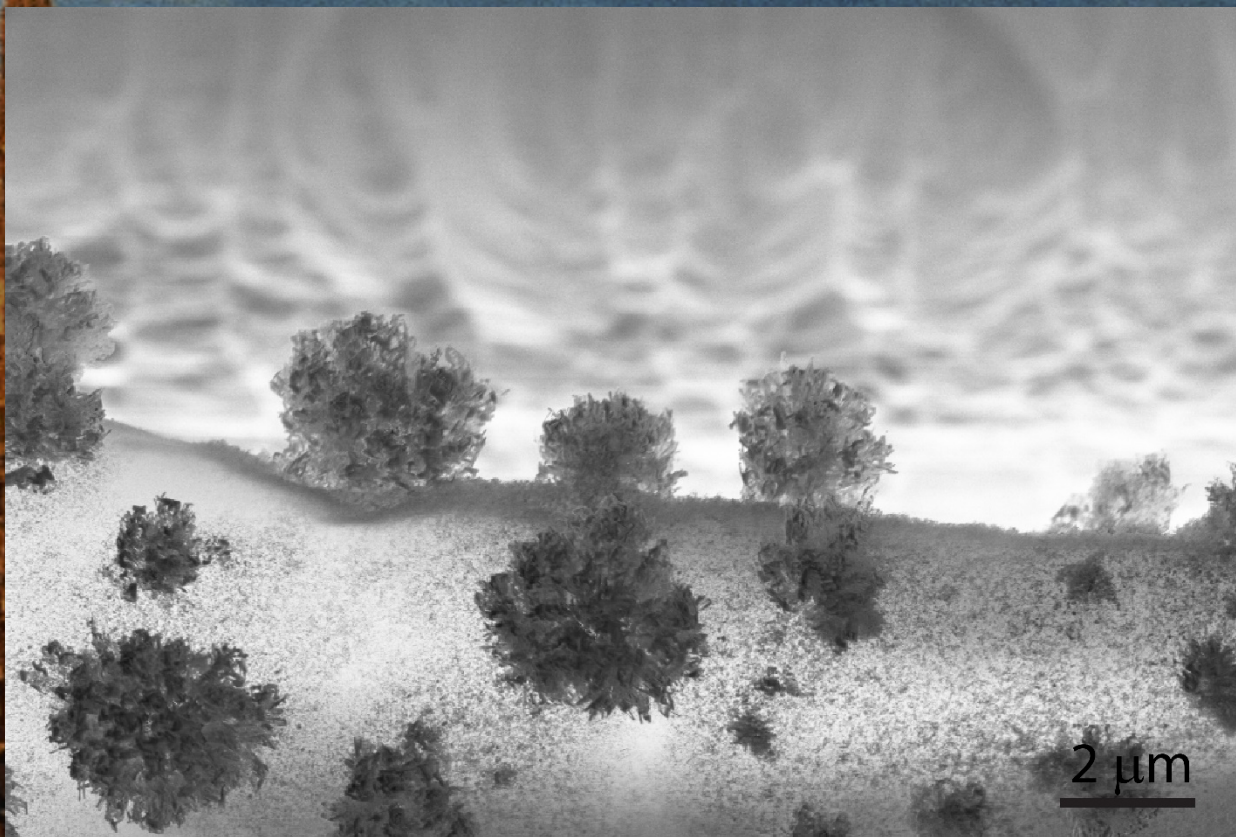
Dried salt solution
with fluorescent
nano-particles.



“Nickel Corals”

Description:

Nickel Corals formed when exposing Nickel to high power oxygen plasma.



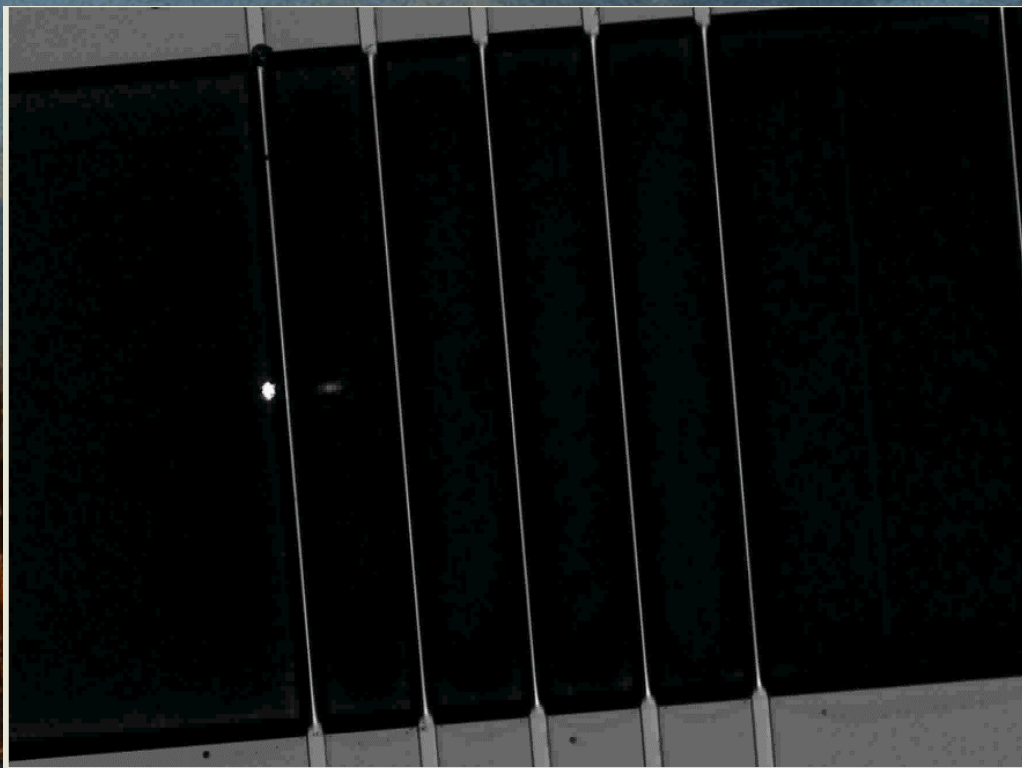
**2016 Micro-Nano Graph
Contest**

74

"Playing the Strings"

Description:

Buckling of clamped-clamped Nickel beams due to the heating by a red laser



Submitted by: Tom Larsen
Affiliation: ANEMS - EPFL

Instrument: Carl Zeiss SEM
Magnification: 10x