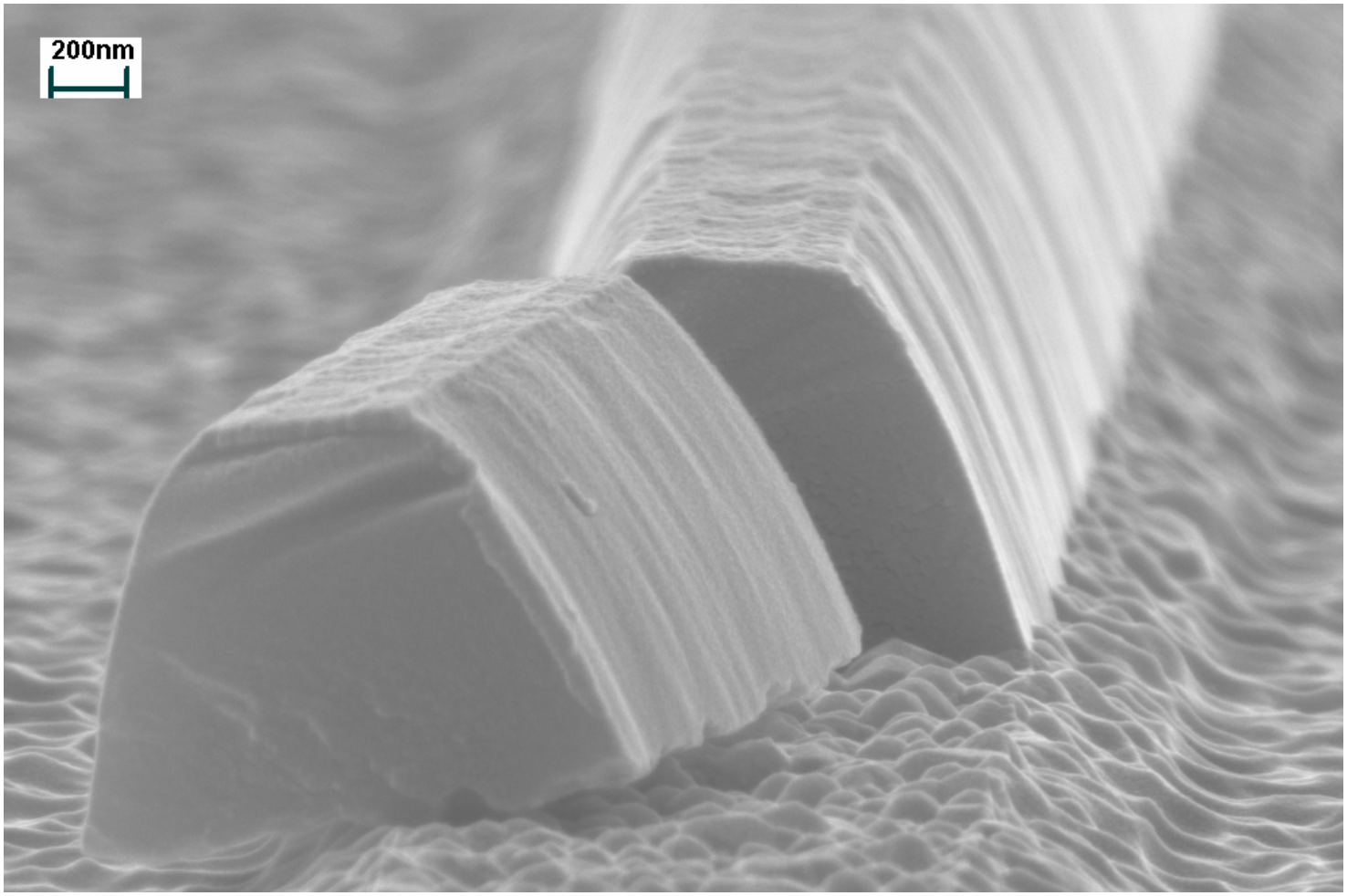
micro & nano - graph Contest



micro & nano - graph Title:

A piece of Nano- Mon Chéri

Description:

Porous Si after selective chemical treatment.

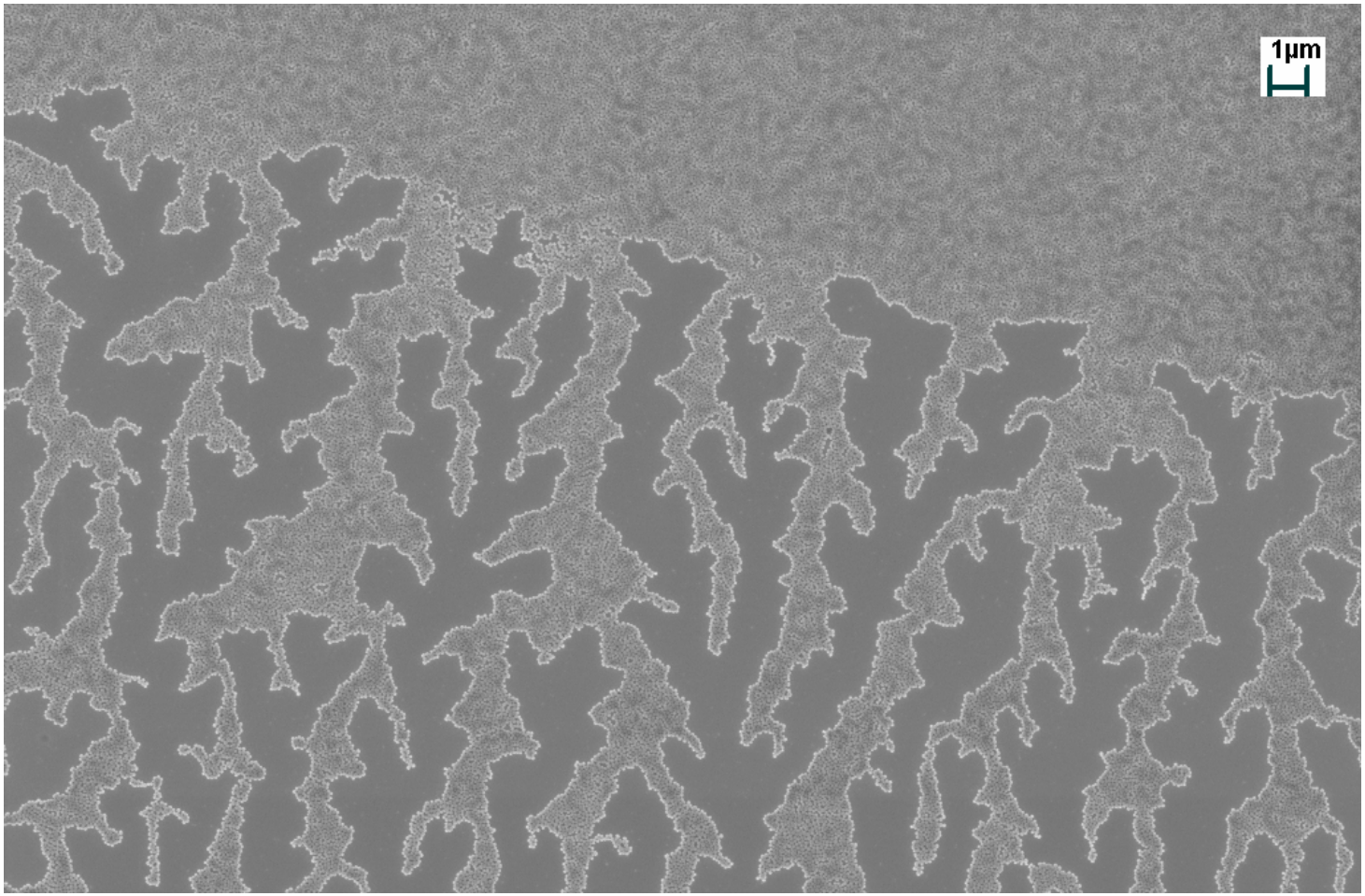
Magnification: 100 000

Submitted by: E. Horváth

Instrument: Carl Zeiss, LEO 1540 XB

Affiliation: HAS, RESEARCH INSTITUTE FOR TECHNICAL PHYSICS AND MATERIALS SCIENCE

micro & nano - graph Contest



micro & nano - graph Title:

Snow-frost

Description:

300 nm silicon balls on Si surface.

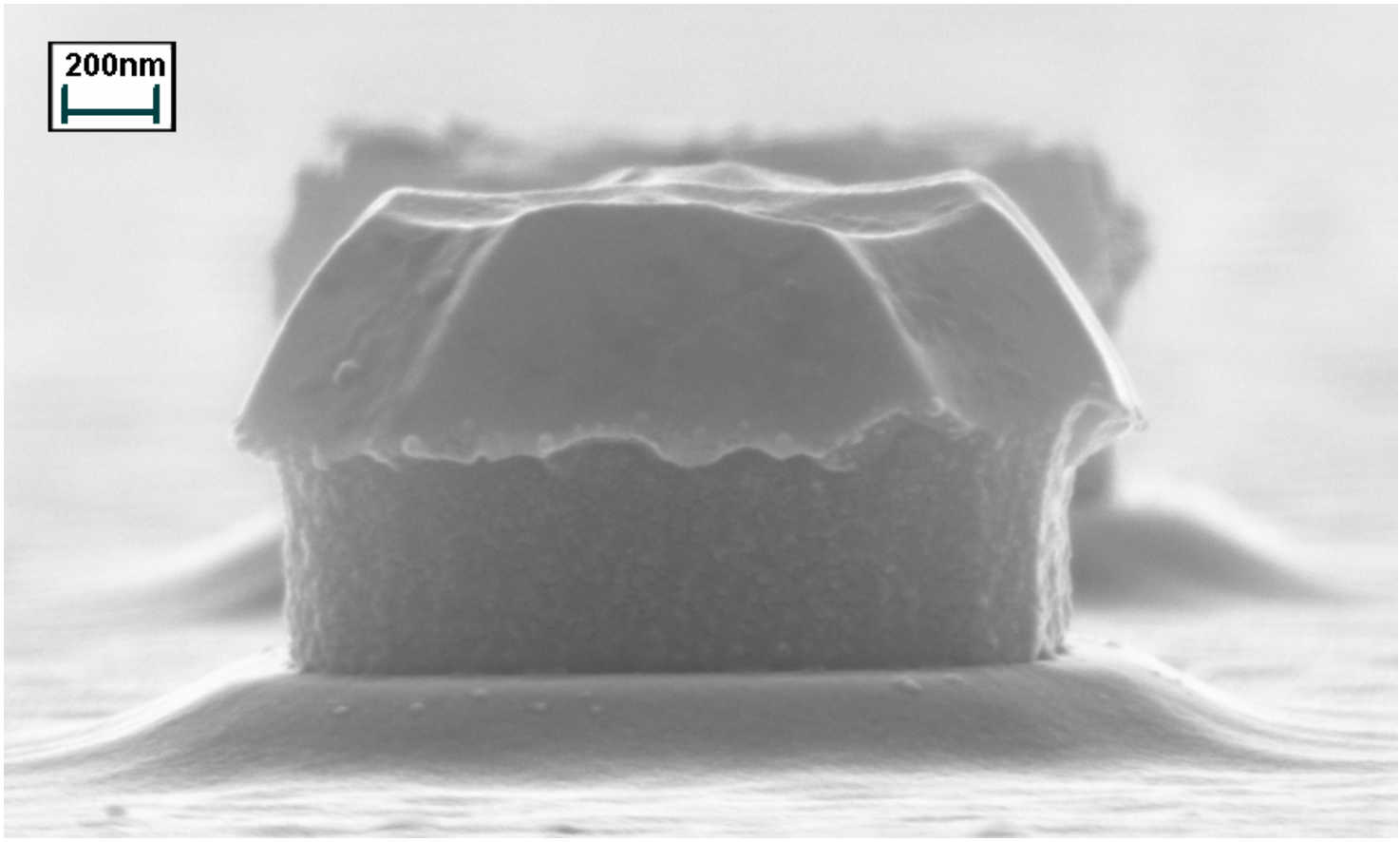
Magnification: 10 000

Submitted by: E. Horváth

Instrument: Carl Zeiss, LEO 1540 XB

Affiliation: HAS, RESEARCH INSTITUTE FOR TECHNICAL PHYSICS AND MATERIALS SCIENCE

MINE 2006 micro & nano - graph Contest



micro & nano - graph Title:

Nano-Muffin

Description:

Porous Si after selective chemical treatment.

Magnification: 100 000

Submitted by: E. Horváth

Instrument: Carl Zeiss, LEO 1540 XB

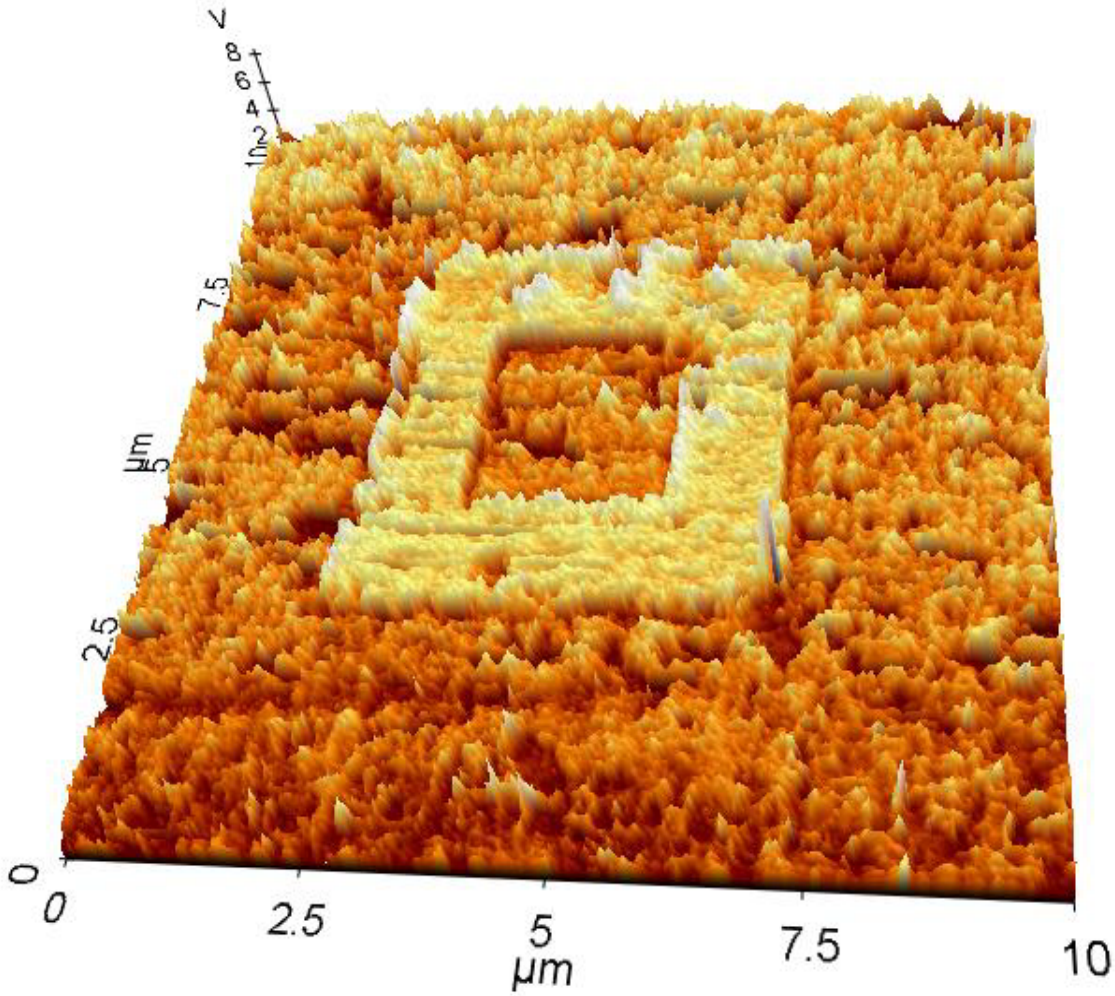
Affiliation: HAS, RESEARCH INSTITUTE FOR TECHNICAL PHYSICS AND MATERIALS SCIENCE

micro & nano - graph Contest

micro & nano - graph Title:

Pt ion detection

Description:
LFM (lateral force microscope) image of Pt ion adsorption (mesa-zone) and gold nanoparticles; mesa-zone is relievo because of high friction force with AFM tip, however this zone is intaglio in topography.



Magnification: -

Submitted by: Sung Koo Kang

Instrument: XE-100, PSIA (AFM)

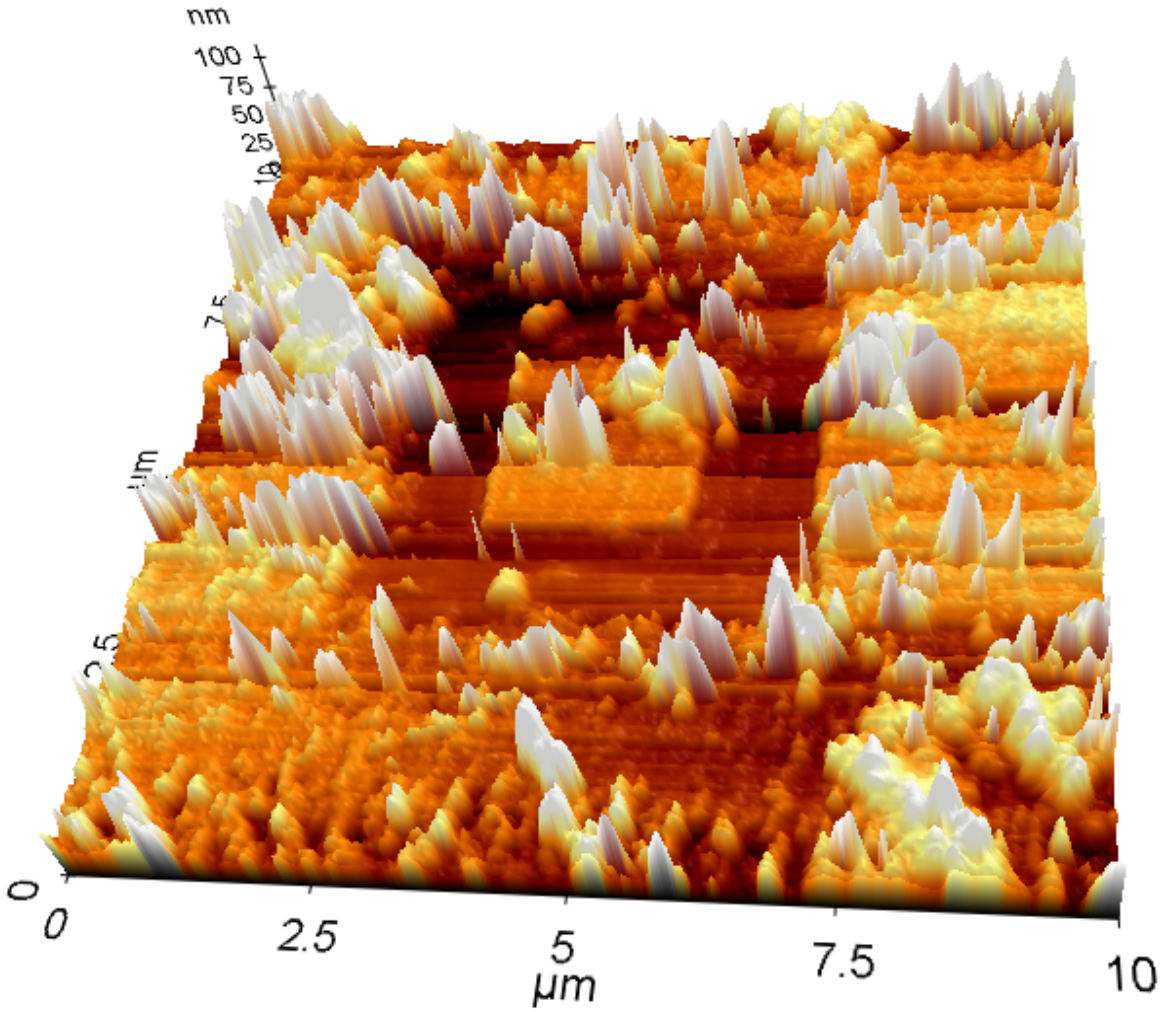
Affiliation: School of Chemical and Biological Engineering, Seoul National University

micro & nano - graph Contest

micro & nano - graph Title:

Pt ion detection

Description:
Topo image of Pt ion adsorption (mesa-zone) and gold nanoparticles; mesa-zone is intaglio, however this zone is relievo in LFM image because of chemical properties. In addition, aggregated organic materials is not appeared in LFM image on the same reason.



Magnification: -

Submitted by: Sung Koo Kang

Instrument: XE-100, PSIA (AFM)

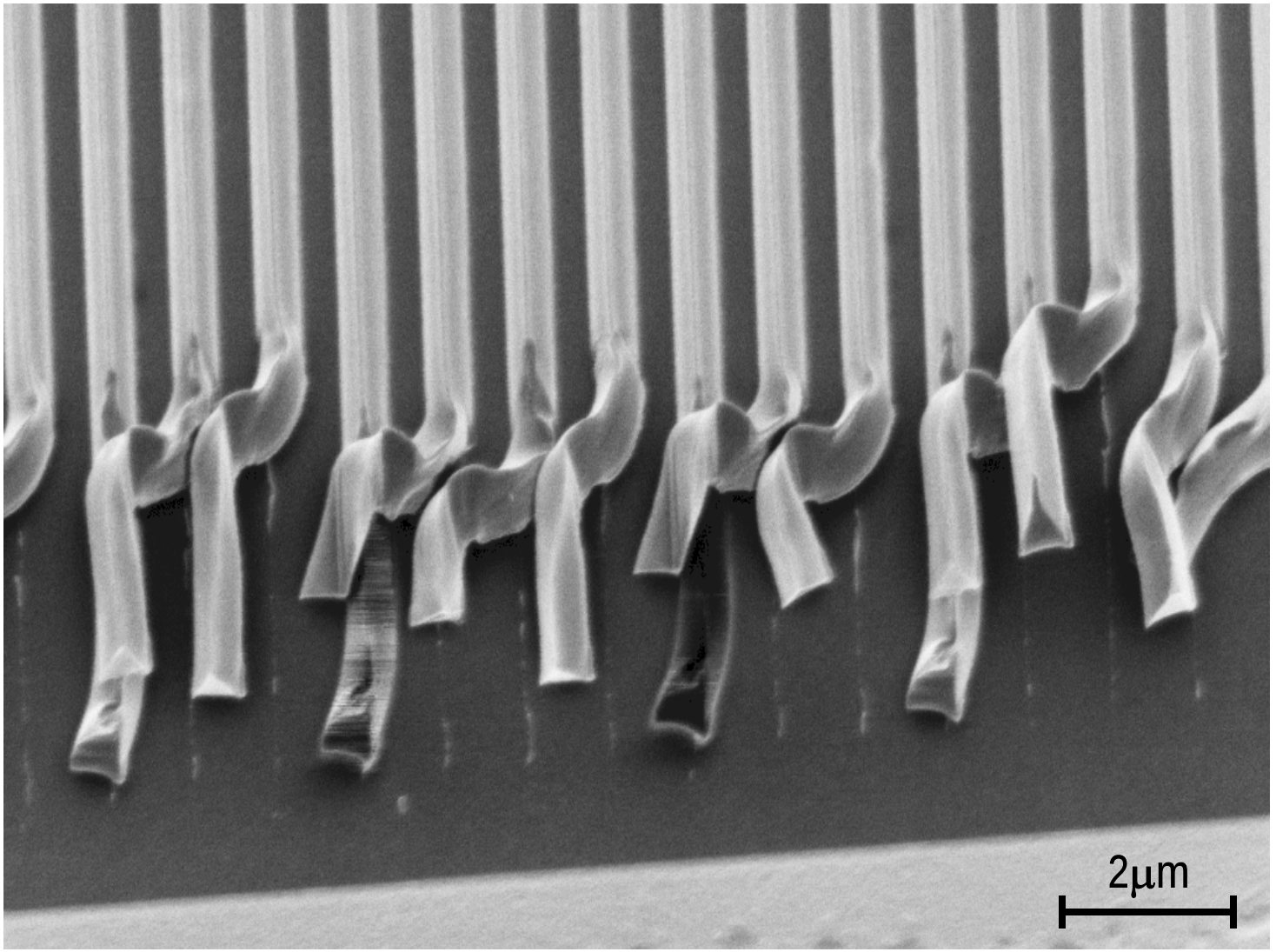
Affiliation: School of Chemical and Biological Engineering, Seoul National University

micro & nano - graph Contest

micro & nano - graph Title:

Fringes

Description:
Detail of a deformed polymeric pattern, after NanoImprint lithography



Magnification: 25 k X

Instrument: SEM LEO 1530

Submitted by: Irene Fernández

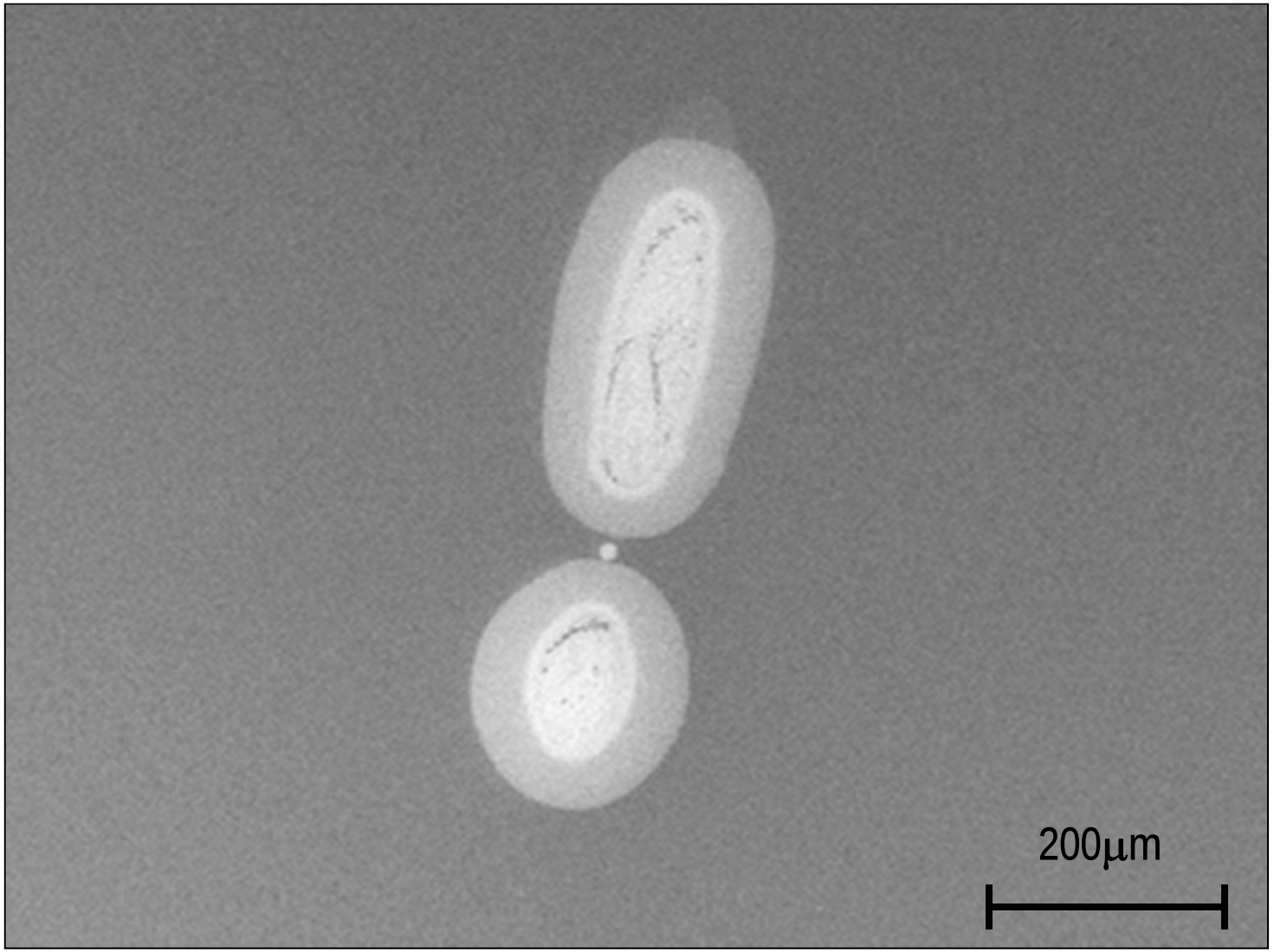
Affiliation: CNM, IMB - Barcelona

micro & nano - graph Contest

micro & nano - graph Title:

Surprise !

Description:
Some remaining resist after cleaning a sample with acetone.



Magnification: 140 X

Instrument: SEM LEO 1530

Submitted by: Irene Fernández

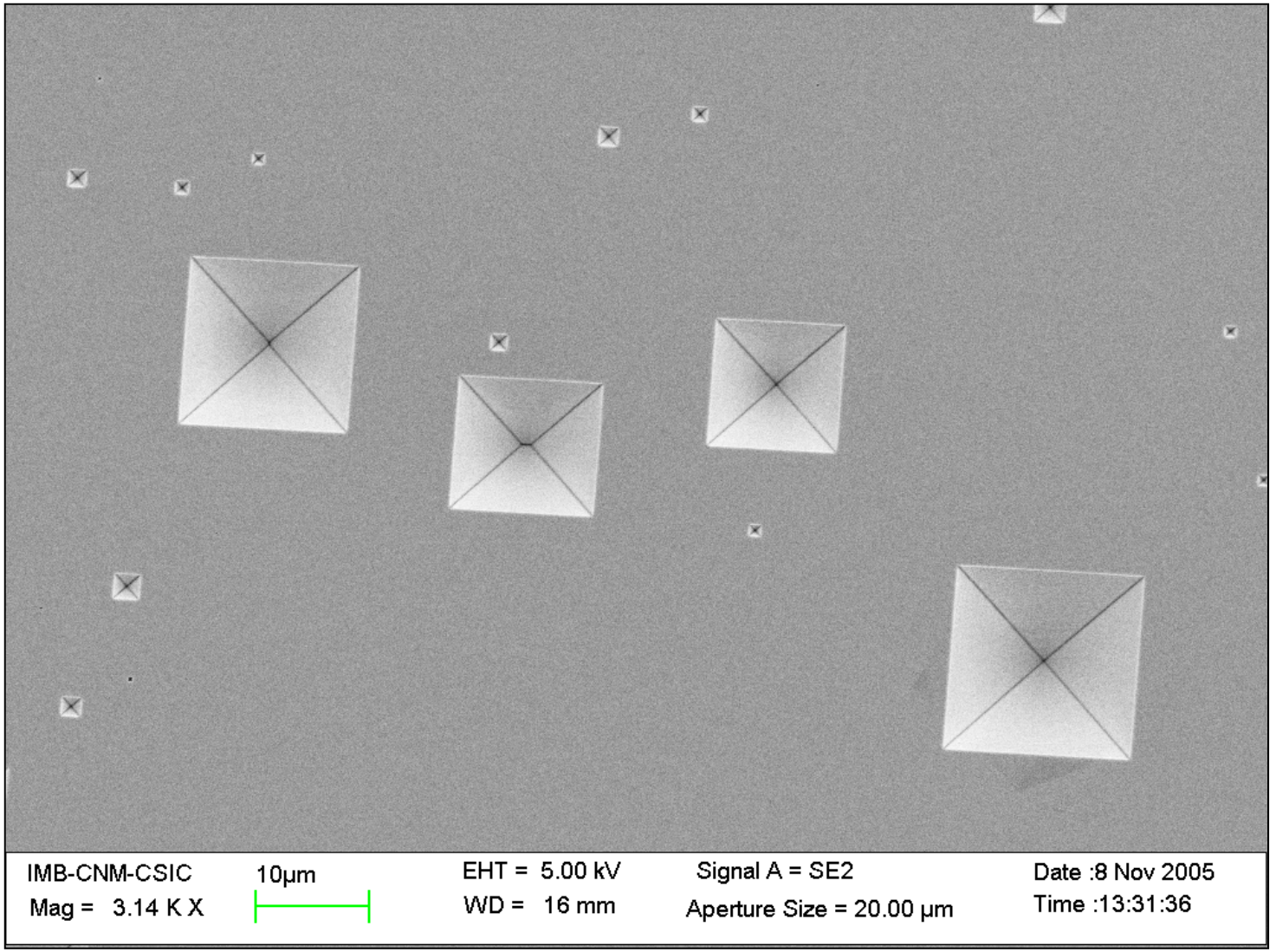
Affiliation: CNM, IMB - Barcelona

micro & nano - graph Contest

micro & nano - graph Title:

Giza

Description:
Overetched structures in a silicon wafer, after TMAH etching.



Magnification: 3.14 k X
Submitted by: Irene Fernández

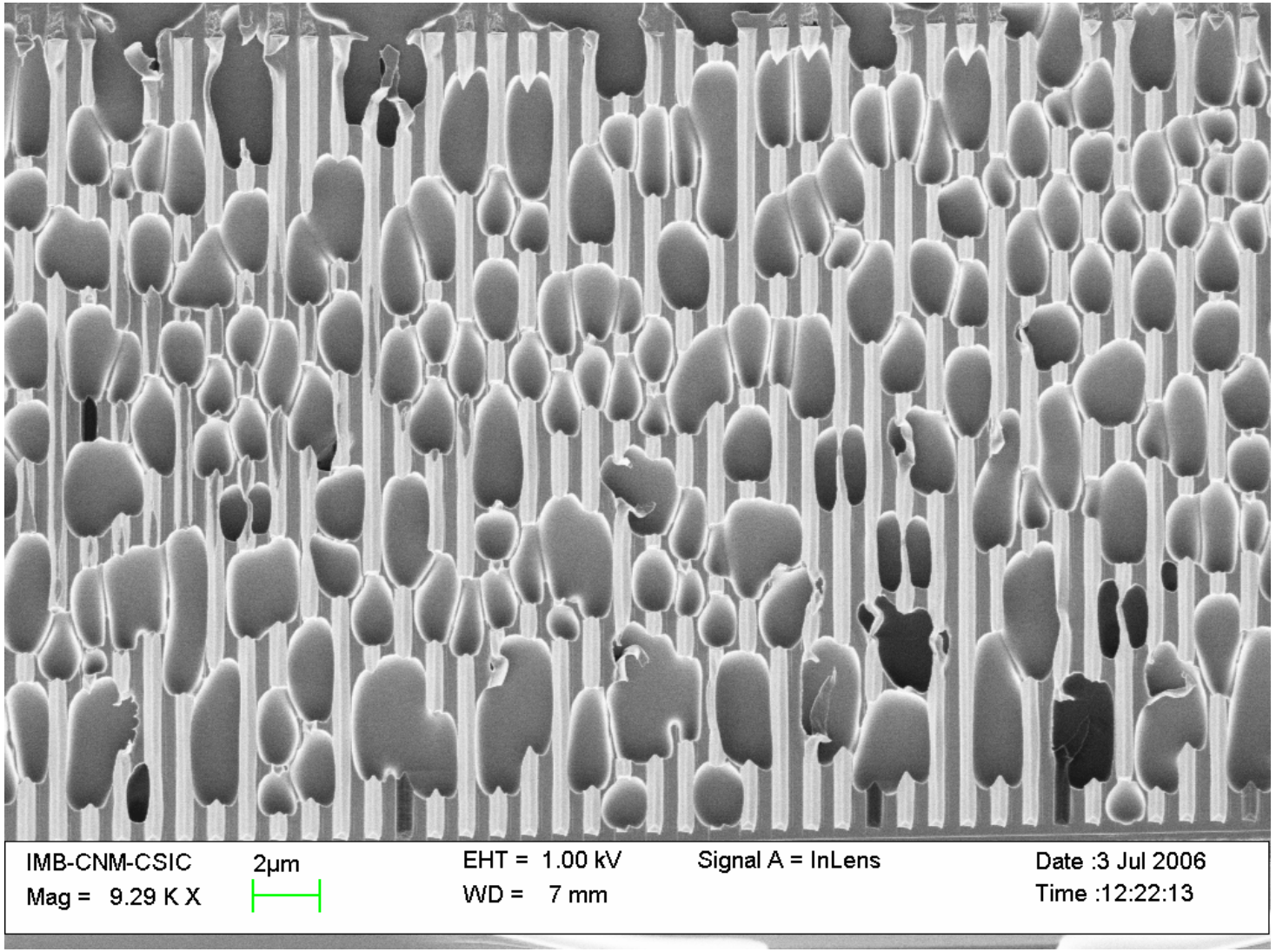
Instrument: SEM LEO 1530
Affiliation: CNM, IMB - Barcelona

micro & nano - graph Contest

micro & nano - graph Title:

Tulipes

Description:
Polymeric pattern, after NanoImprint lithography, with high imprinting and demolding temperature



Magnification: 9.29 k X

Instrument: SEM LEO 1530

Submitted by: Irene Fernández

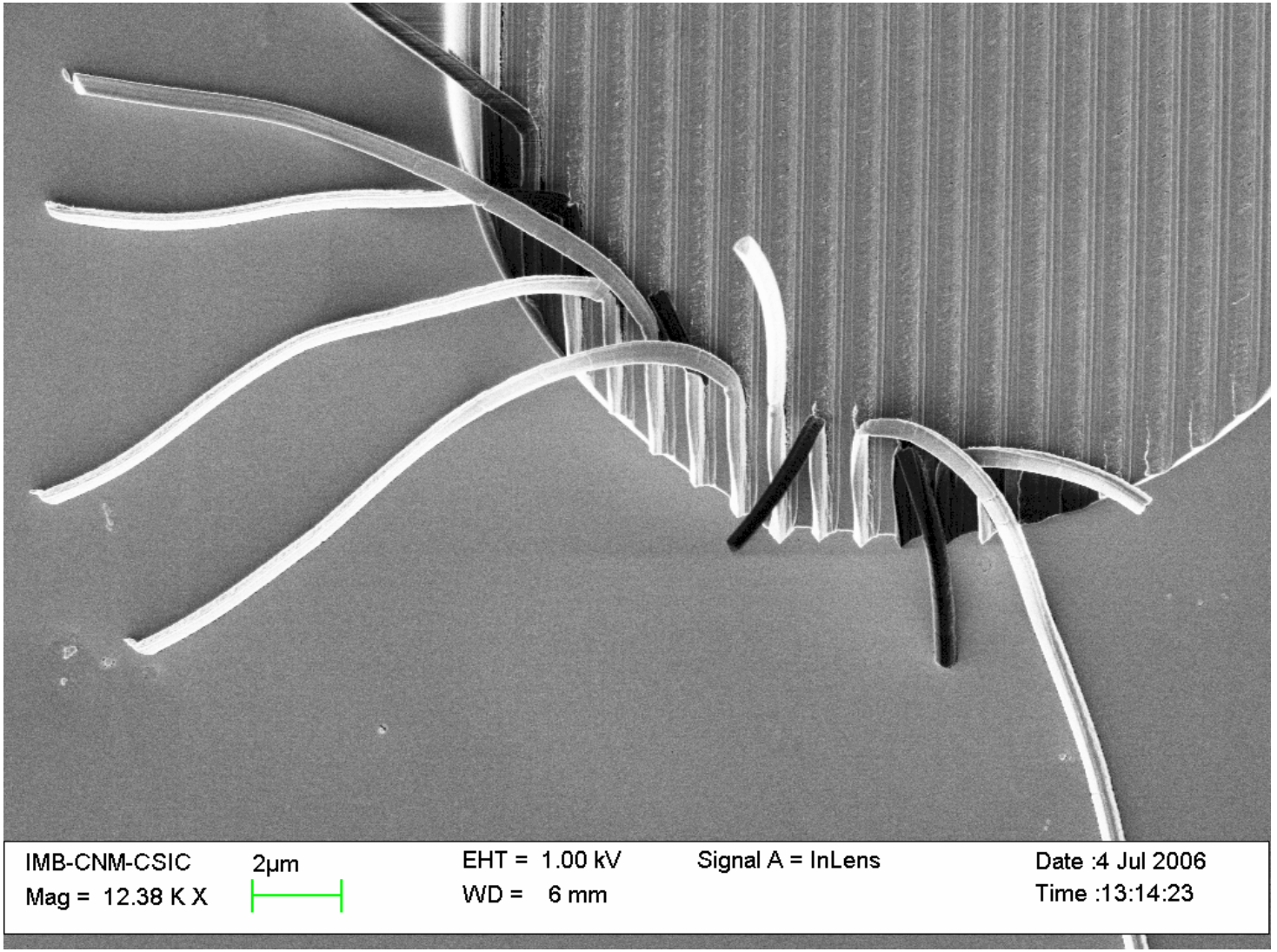
Affiliation: CNM, IMB - Barcelona

micro & nano - graph Contest

micro & nano - graph Title:

Spider

Description:
Deformed polymeric pattern, after NanoImprint lithography



Magnification: 12.38 k X

Instrument: SEM LEO 1530

Submitted by: Irene Fernández

Affiliation: CNM, IMB - Barcelona

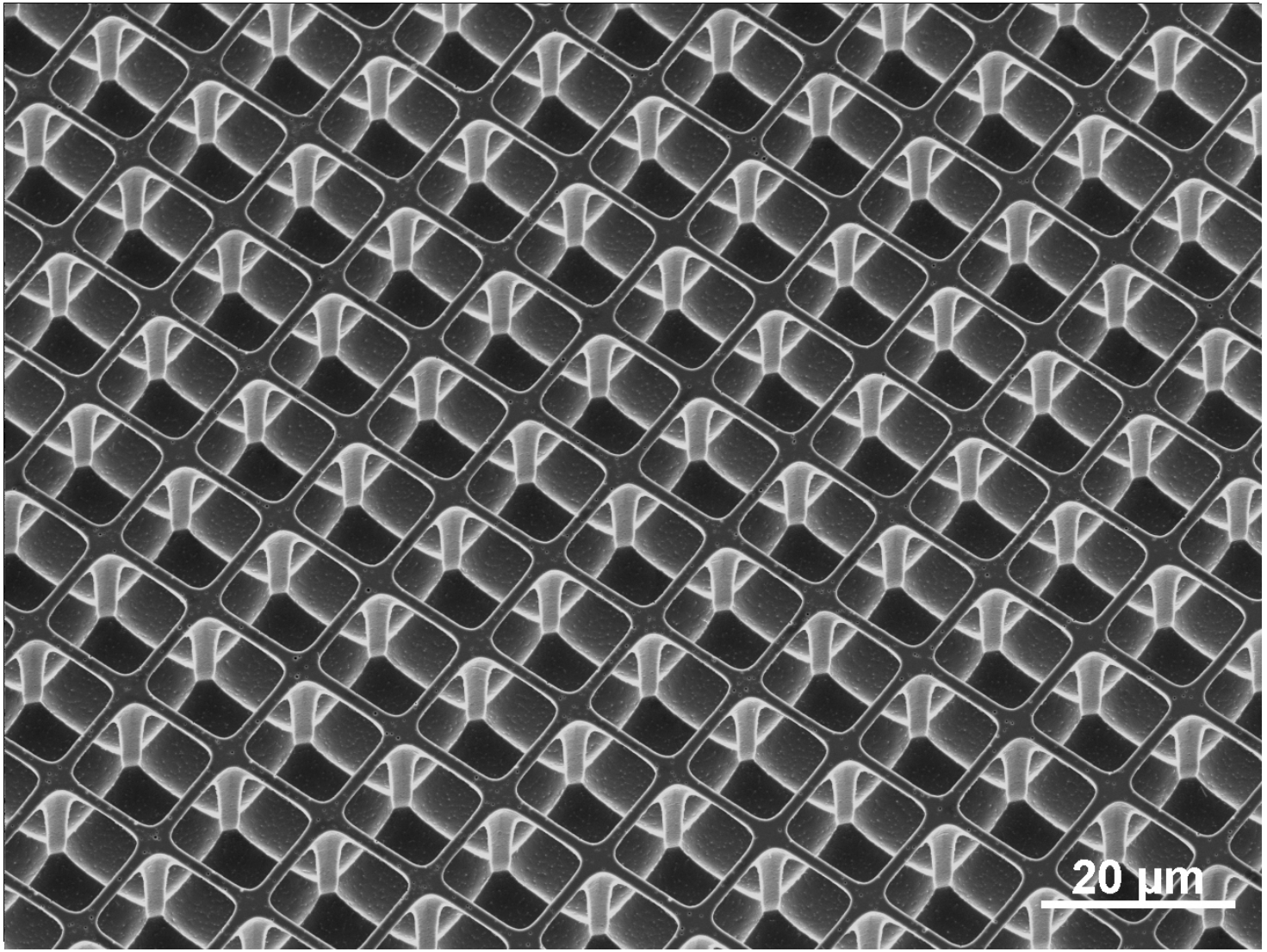
micro & nano - graph Contest

micro & nano - graph Title:

Not an Escher

Description:

Accidental undercutting of square pits, during cryo etch in Si, resulting in a freestanding cage structure



Magnification: 800 x

Submitted by: Chris Rétif

Instrument: FEI XL30 SFEG

Affiliation: FOM-AMOLF, Amsterdam The Netherlands

micro & nano - graph Contest

micro & nano - graph Title:

Who spilled the milk?

Description:

Optical image of quantum trees evolving from quantum dot solution by evaporation.

Magnification: Scale on the picture

Instrument: AxioCam MR

Submitted by: Yongfeng Mei

Affiliation: Max-Planck Institute for Solid State Research, Stuttgart, Germany.

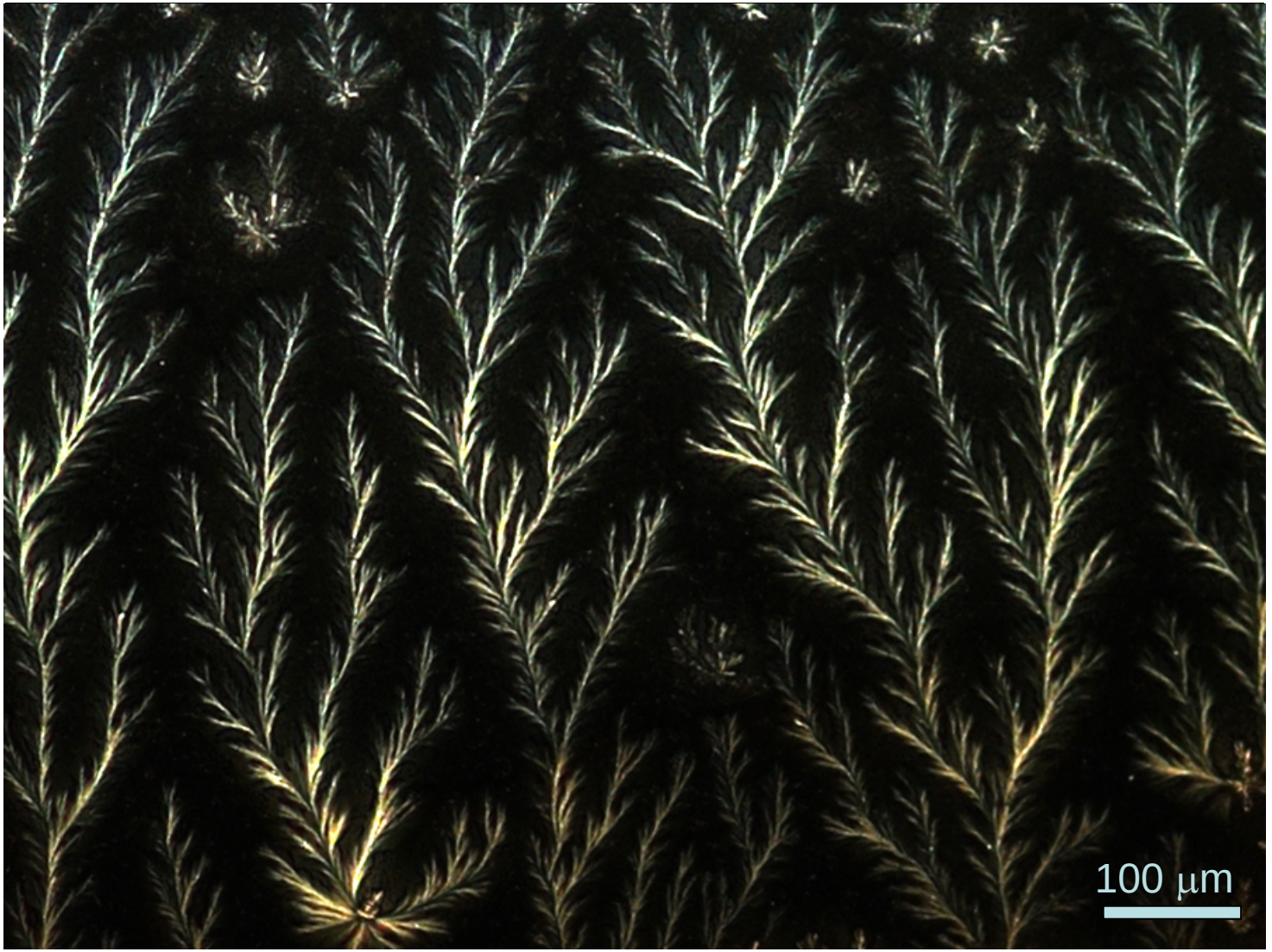
micro & nano - graph Contest

micro & nano - graph Title:

Who spilled the milk again?

Description:

Optical image of quantum trees evolving from quantum dot solution by evaporation.



Magnification: Scale on the picture

Instrument: AxioCam MR

Submitted by: Yongfeng Mei

Affiliation: Max-Planck Institute for Solid State Research, Stuttgart, Germany

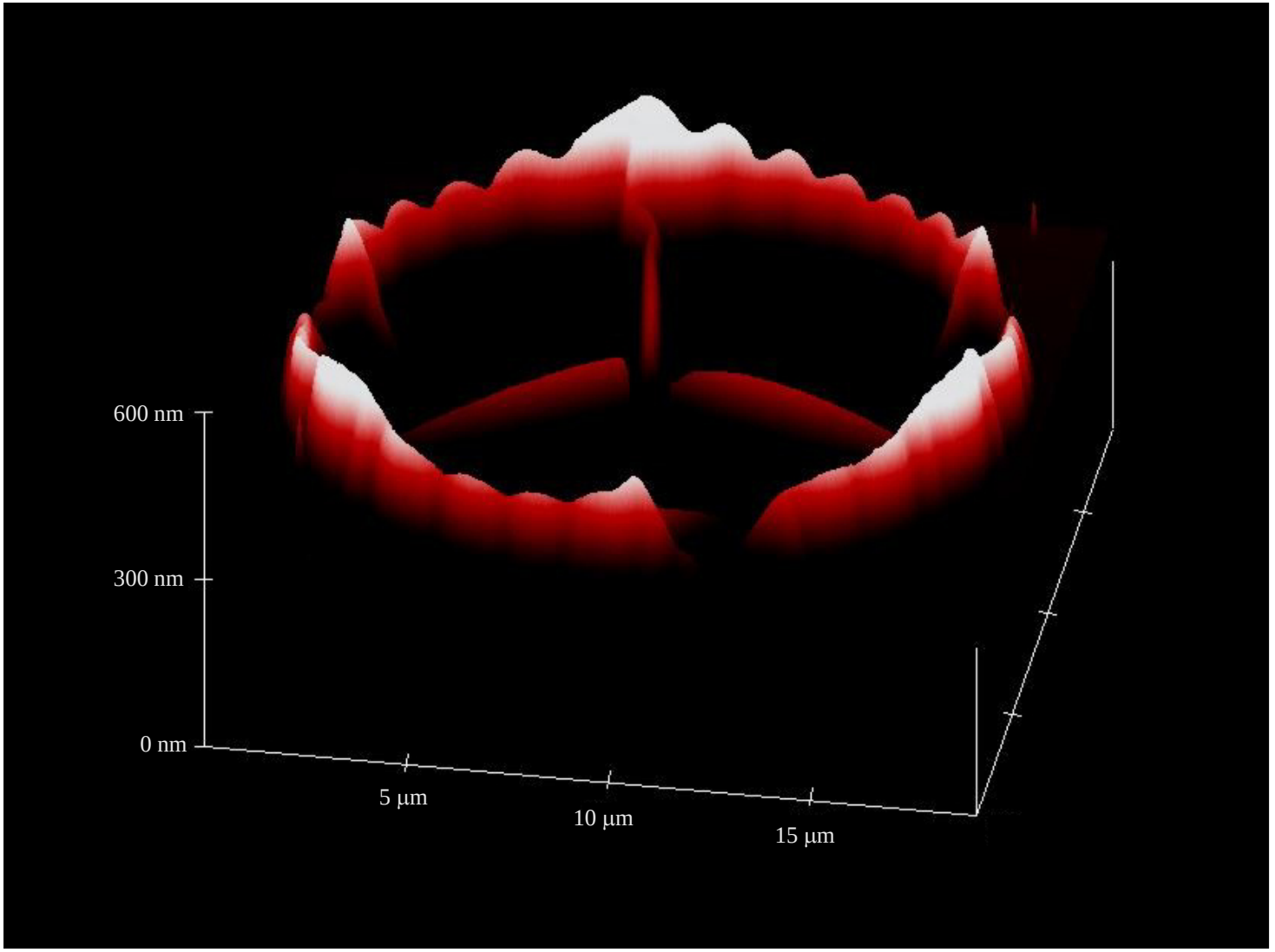
micro & nano - graph Contest

micro & nano - graph Title:

It is 2006‘s nano-Benz logo.

Description:

AFM image of semiconductor nanochannel (~100 nm) network with Benz logo by **re**leasing and **bo**nd-back of **la**yers (REBOLA) technology.



Magnification: Scale on the picture

Instrument: Nanoscope

Submitted by: Yongfeng Mei

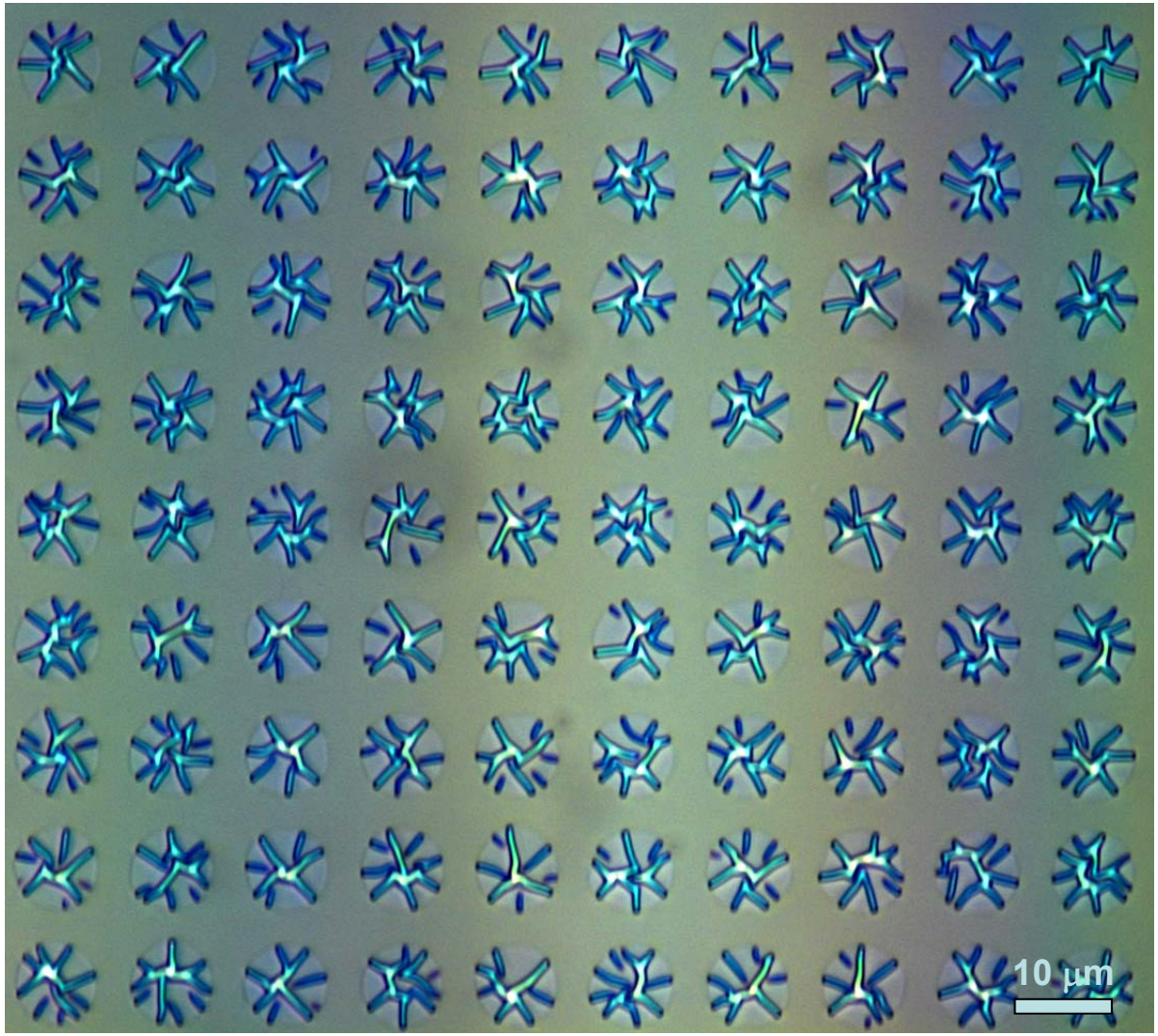
Affiliation: Max-Planck Institute for Solid State Research, Stuttgart, Germany.

micro & nano - graph Contest

micro & nano - graph Title:

Logos of MNE 2006 Olympic Games

Description:
Optical image of semiconductor nanochannel network by **re**leasing and **bo**nd-back of **la**yers (REBOLA) technology.



Magnification: Scale on the picture

Instrument: AxioCam MR

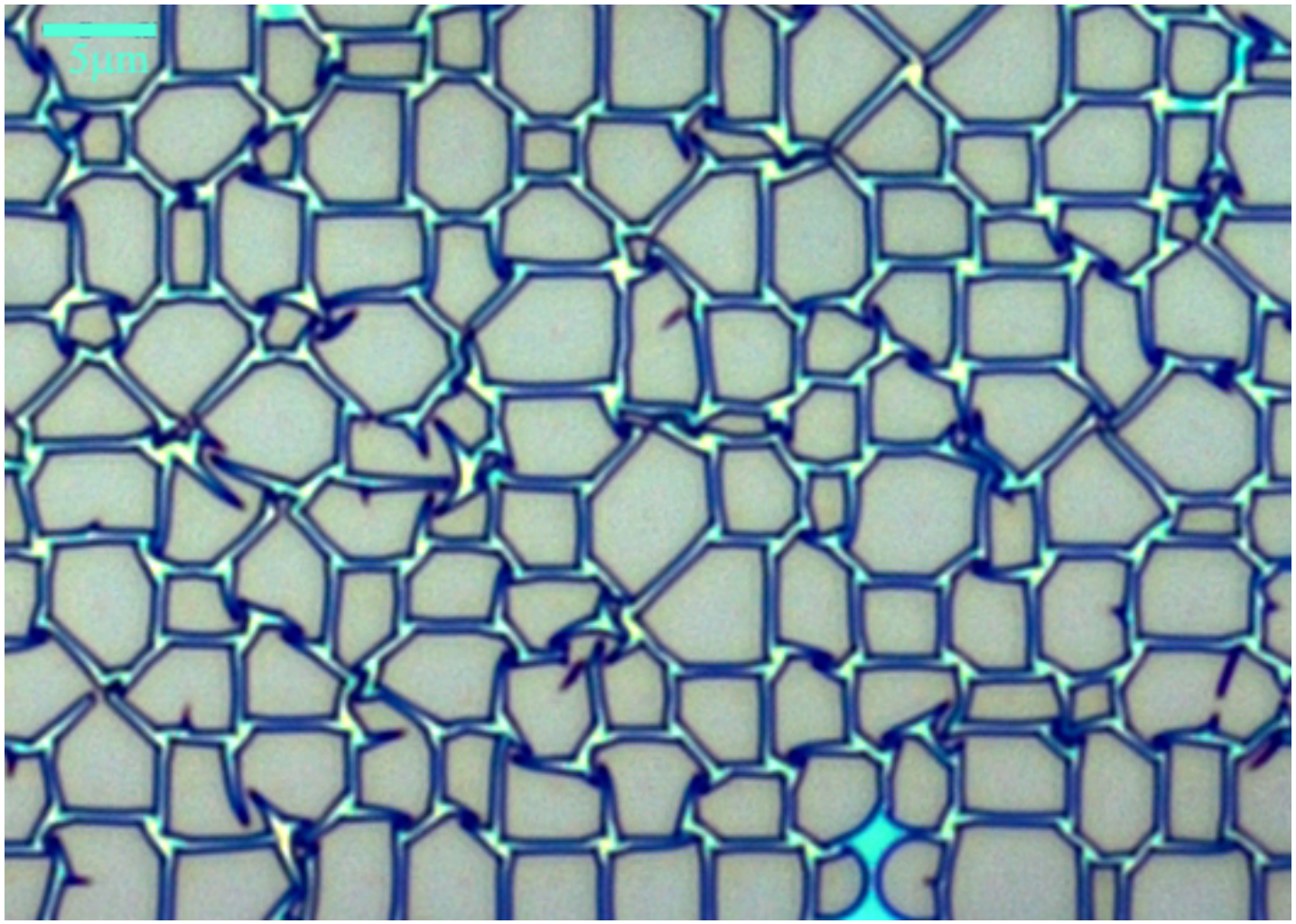
Submitted by: Yongfeng Mei

Affiliation: Max-Planck Institute for Solid State Research, Stuttgart, Germany.

micro & nano - graph Contest

micro & nano - graph Title:

Satellite map of nano-world



Description:

Optical image of semiconductor nanochannel network by **re**leasing and **bo**nd-back of **la**yers (REBOLA) technology.

Magnification: Scale on the picture

Instrument: AxioCam MR

Submitted by: Yongfeng Mei

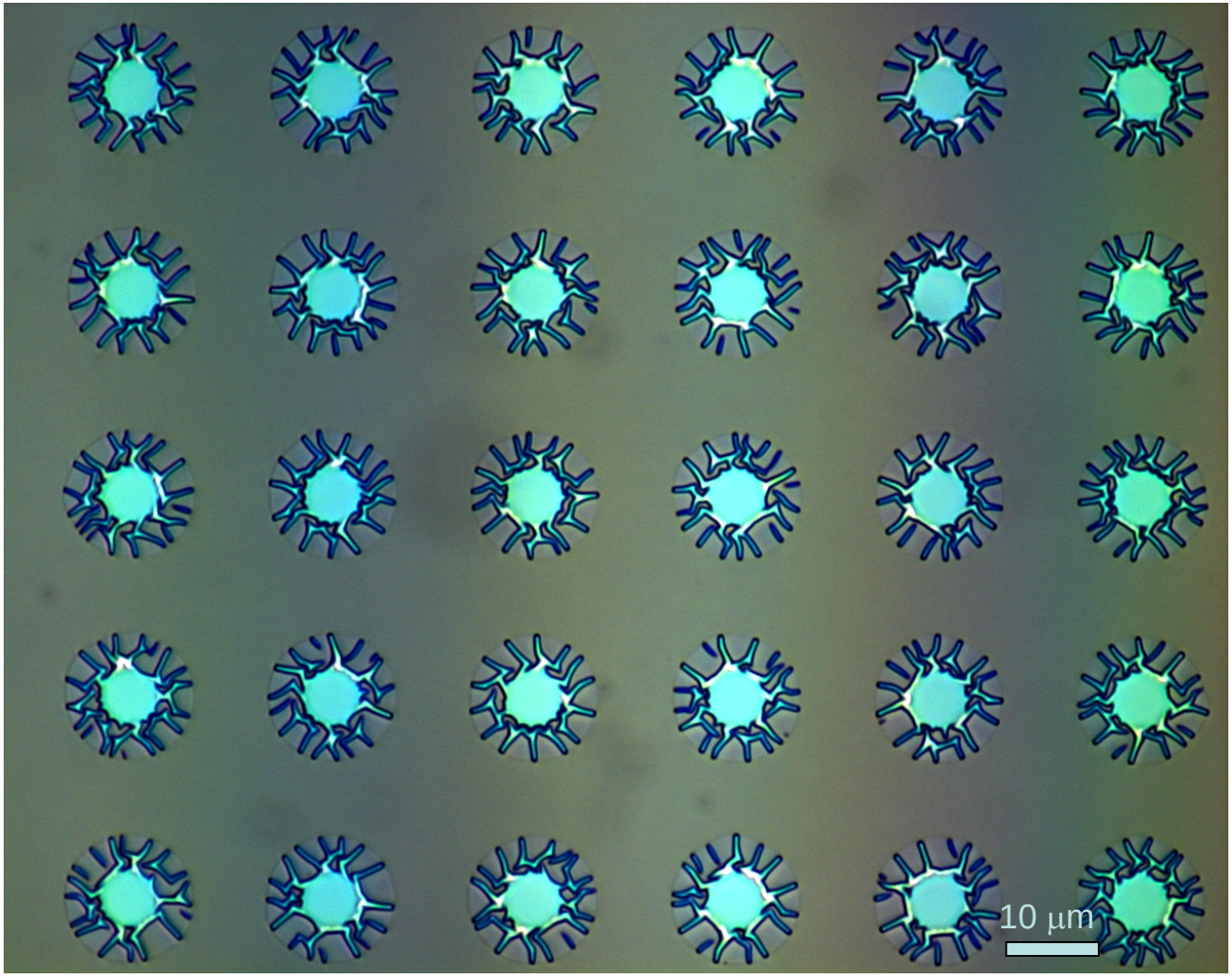
Affiliation: Max-Planck Institute for Solid State Research, Stuttgart, Germany.

micro & nano - graph Contest

micro & nano - graph Title:

Who would like to fight with octopus army?

Description:
Optical image of semiconductor nanochannel network by **re**leasing and **bo**nd-back of **la**yers (REBOLA) technology.



Magnification: Scale on the picture

Instrument: AxioCam MR

Submitted by: Yongfeng Mei

Affiliation: Max-Planck Institute for Solid State Research, Stuttgart, Germany.

MINE 2006 micro & nano - graph Contest

micro & nano - graph Title:

Tatatataa - ah, Mozart!

Description:

Result of printing a real 3D structure in a UV-NIL process. Greyscale level represents depth of the structure.

Magnification: 1200X

Submitted by: Guido Piaszenski

Instrument: LEICA INM 100 (optical microscope)

Affiliation: Raith GmbH, Germany

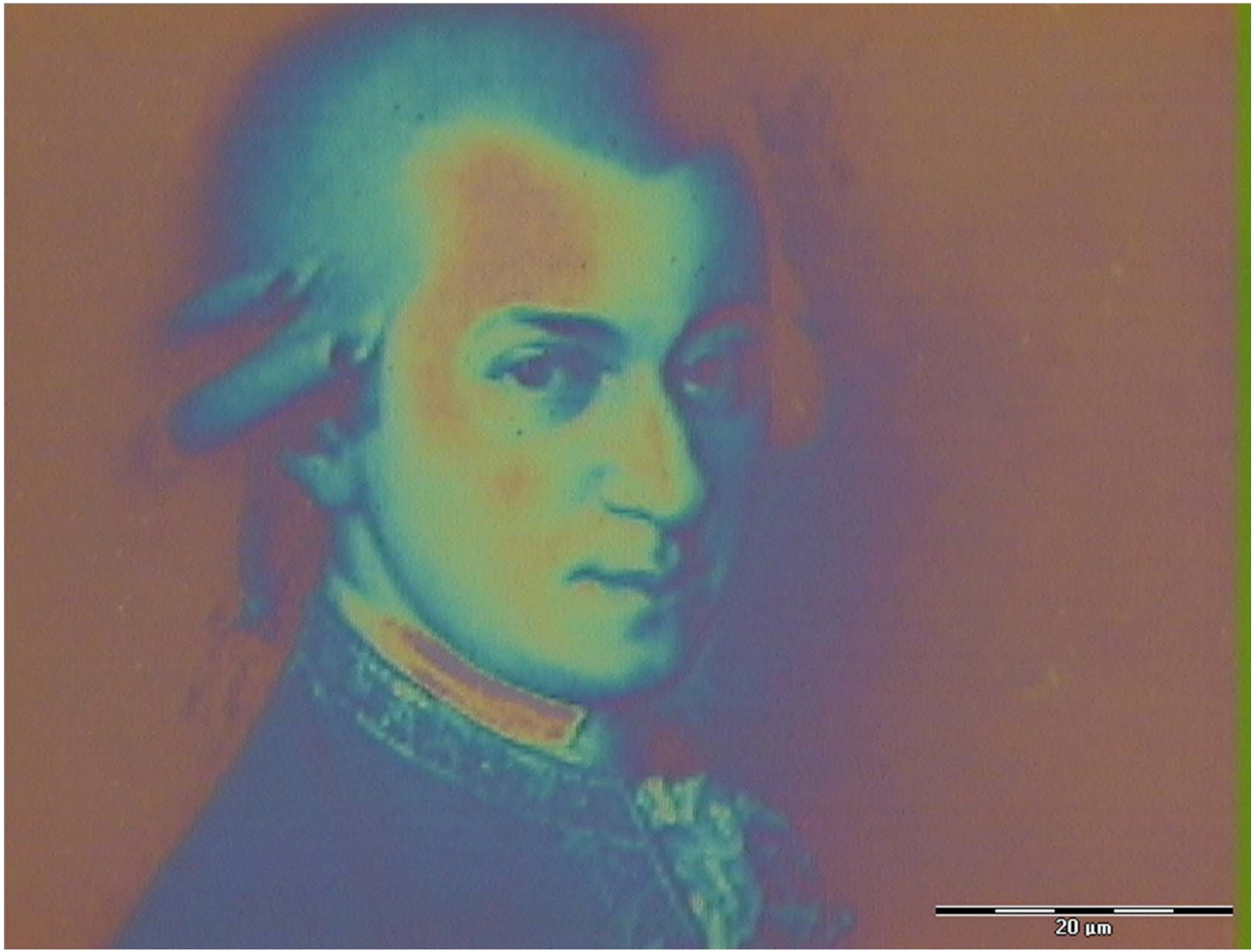
micro & nano - graph Contest

micro & nano - graph Title:

Tatatataa - ah, Mozart!

Description:

Result of printing a real 3D structure in a UV-NIL process. Greyscale level represents depth of the structure.



Magnification: 1200X

Instrument: LEICA INM 100 (optical microscope)

Submitted by: Guido Piaszenski

Affiliation: Raith GmbH, Germany

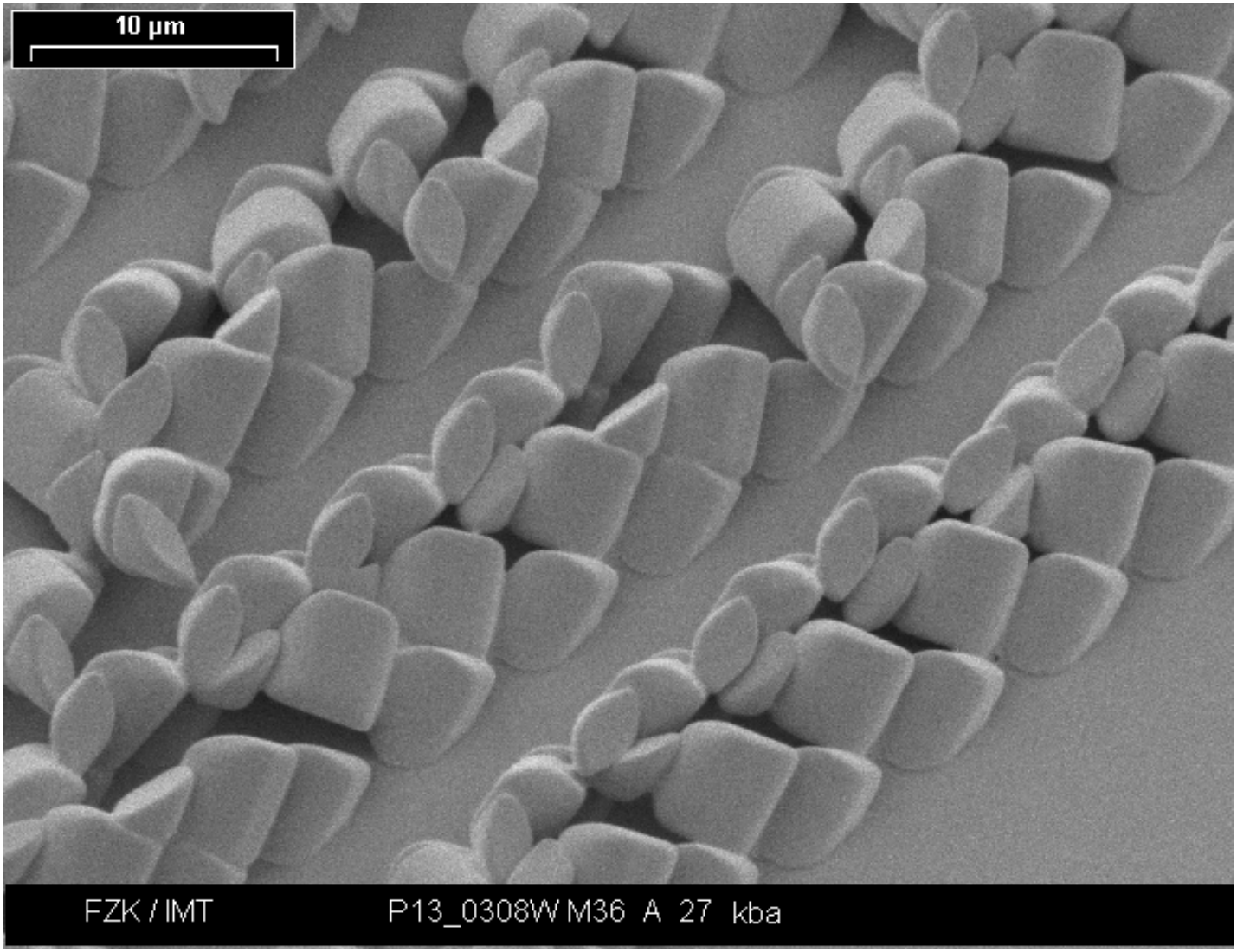
micro & nano - graph Contest

micro & nano - graph Title:

PMMA ruins

Description:

X-ray lithography of a 10 µm PMMA film, tilted under ± 45°. Remaining columns after 1st step of exposure are cut in pieces with 2nd exposure, those remain lying in order like an ancient stone wall.



Magnification: 2000X
Submitted by: Timo Mappes

Instrument: M. MIKRONA SEM 525 M (Philips)
Affiliation: Forschungszentrum Karlsruhe GmbH, Germany

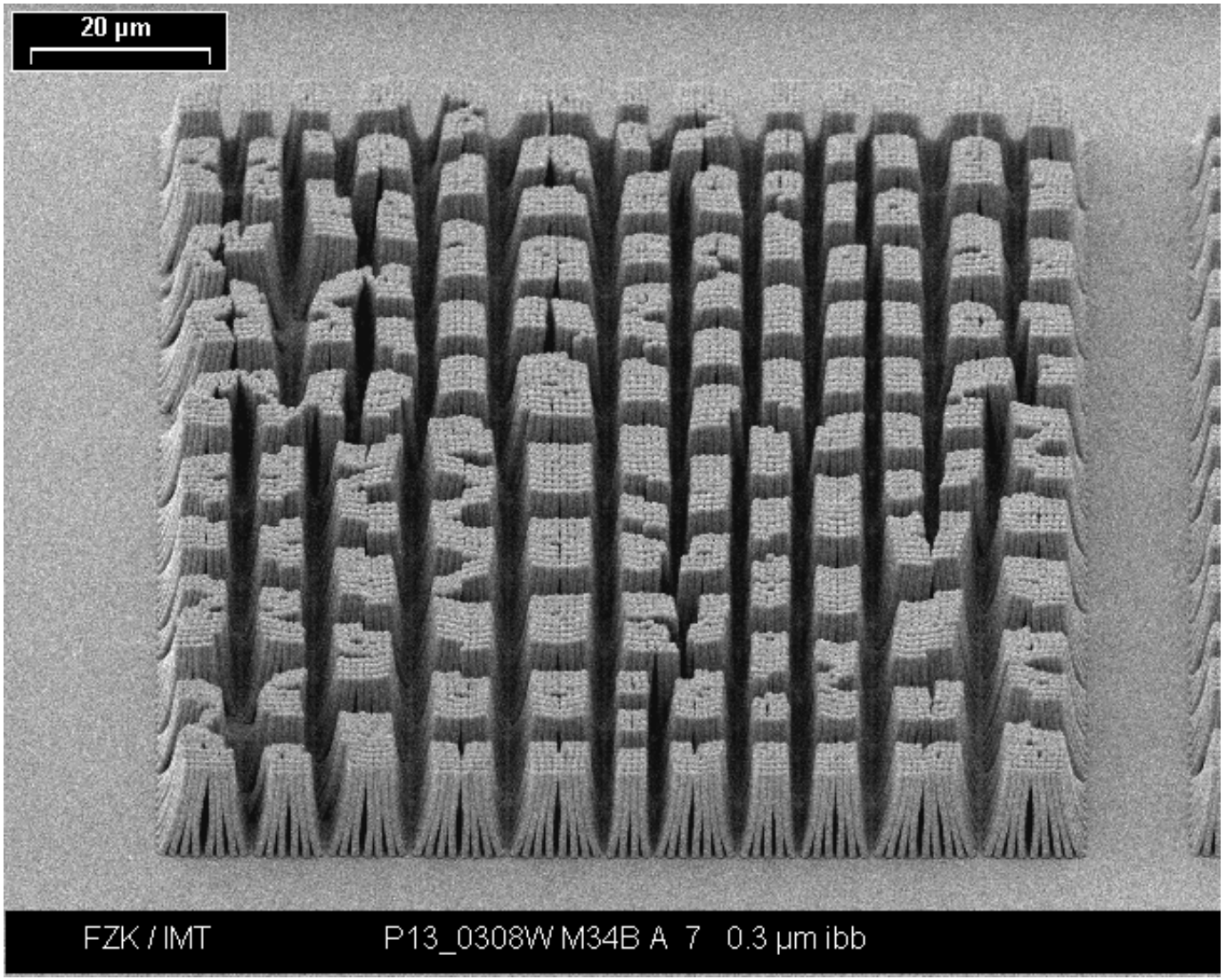
MINE 2006 micro & nano - graph Contest

micro & nano - graph Title:

German ordered collapse

Description:

X-ray lithography of a 5 µm PMMA film, 5625 columns with Ø 800 nm. While drying after wet development the columns are torn to each other due to capillary forces and stay in semi-ordered fields.



Magnification: 740X

Submitted by: Timo Mappes

Instrument: M. MIKRONA SEM 525 M (Philips)

Affiliation: Forschungszentrum Karlsruhe GmbH, Germany

micro & nano - graph Contest

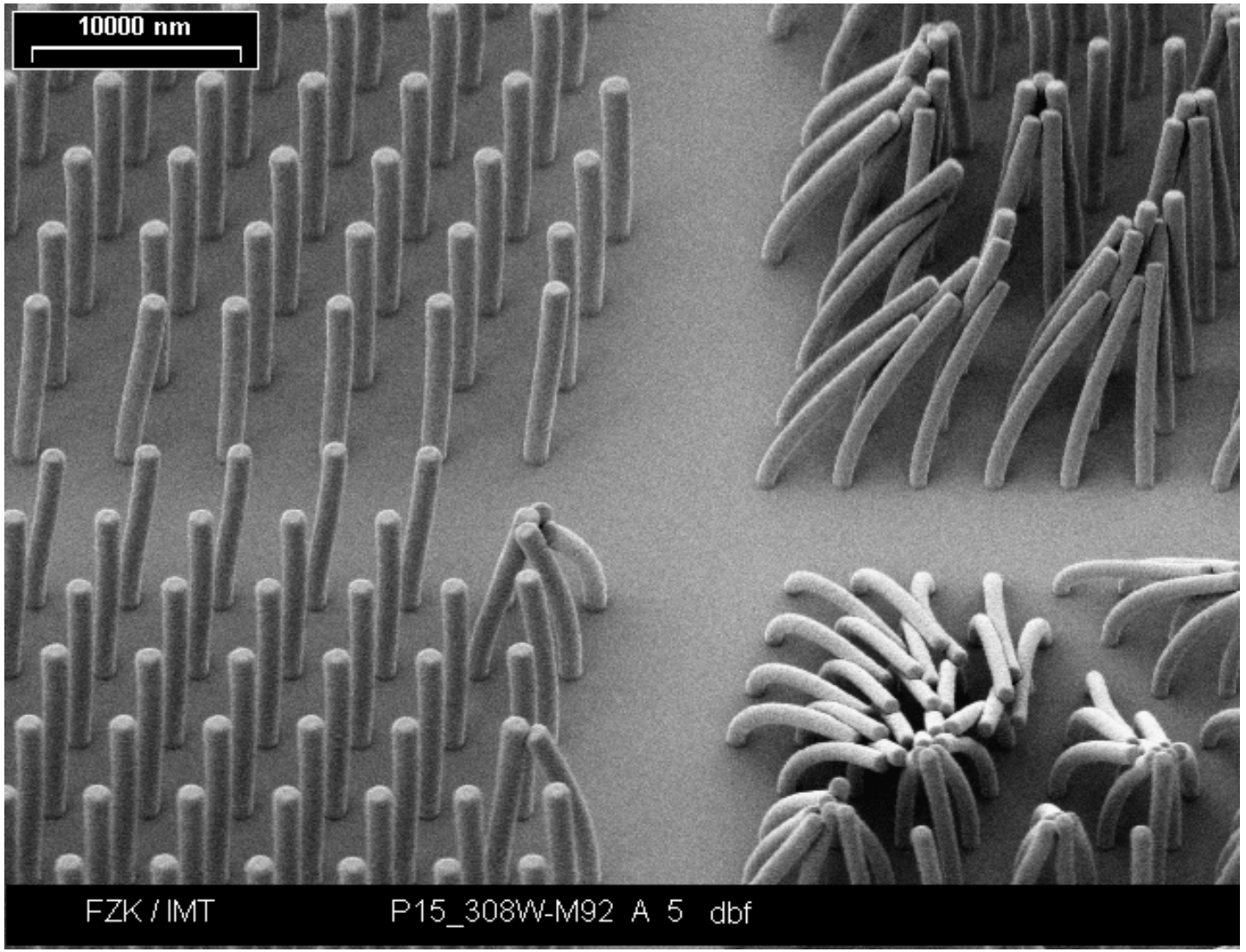
micro & nano - graph Title:

micro-Viagra®

test arrays

Description:

X-ray lithography of a 10 µm SU-8 film, fields of columns with different diameter and pitch. Patterns as indicators for the limit of stability.



Magnification: 1700X

Submitted by: Timo Mappes

Instrument: M. MIKRONA SEM 525 M (Philips)

Affiliation: Forschungszentrum Karlsruhe GmbH, Germany

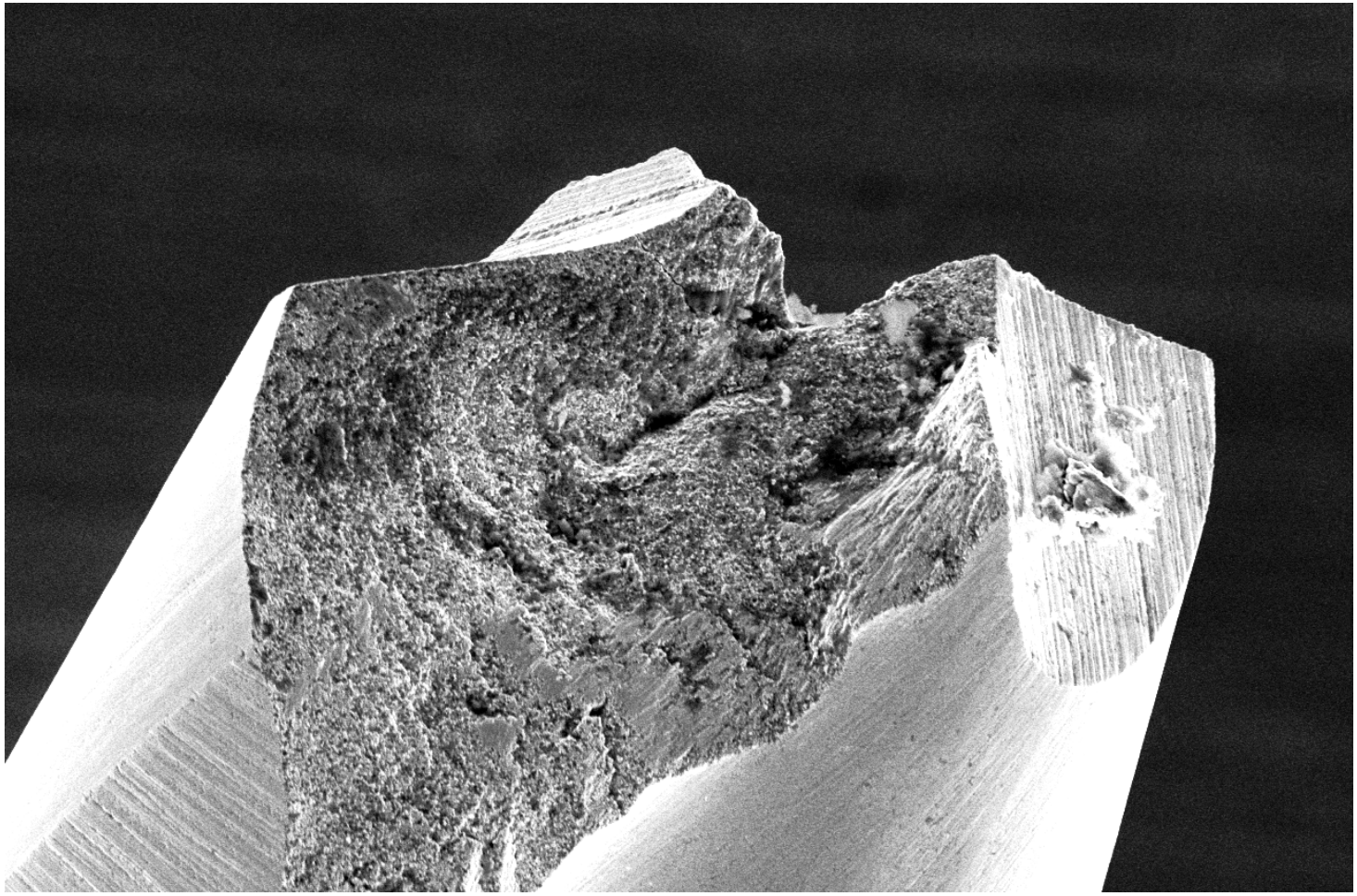
micro & nano - graph Contest

micro & nano - graph Title:

Mountain Top

Description:

Used micro-mill tool. The tool initial diameter was 200 µm.



Magnification: Scale on the picture

Submitted by: Ramona Mateiu

Instrument: Jeol JSM 5500 LV SEM at DANCHIP, Denmark

Affiliation: SCF-Technologies A/S, Denmark

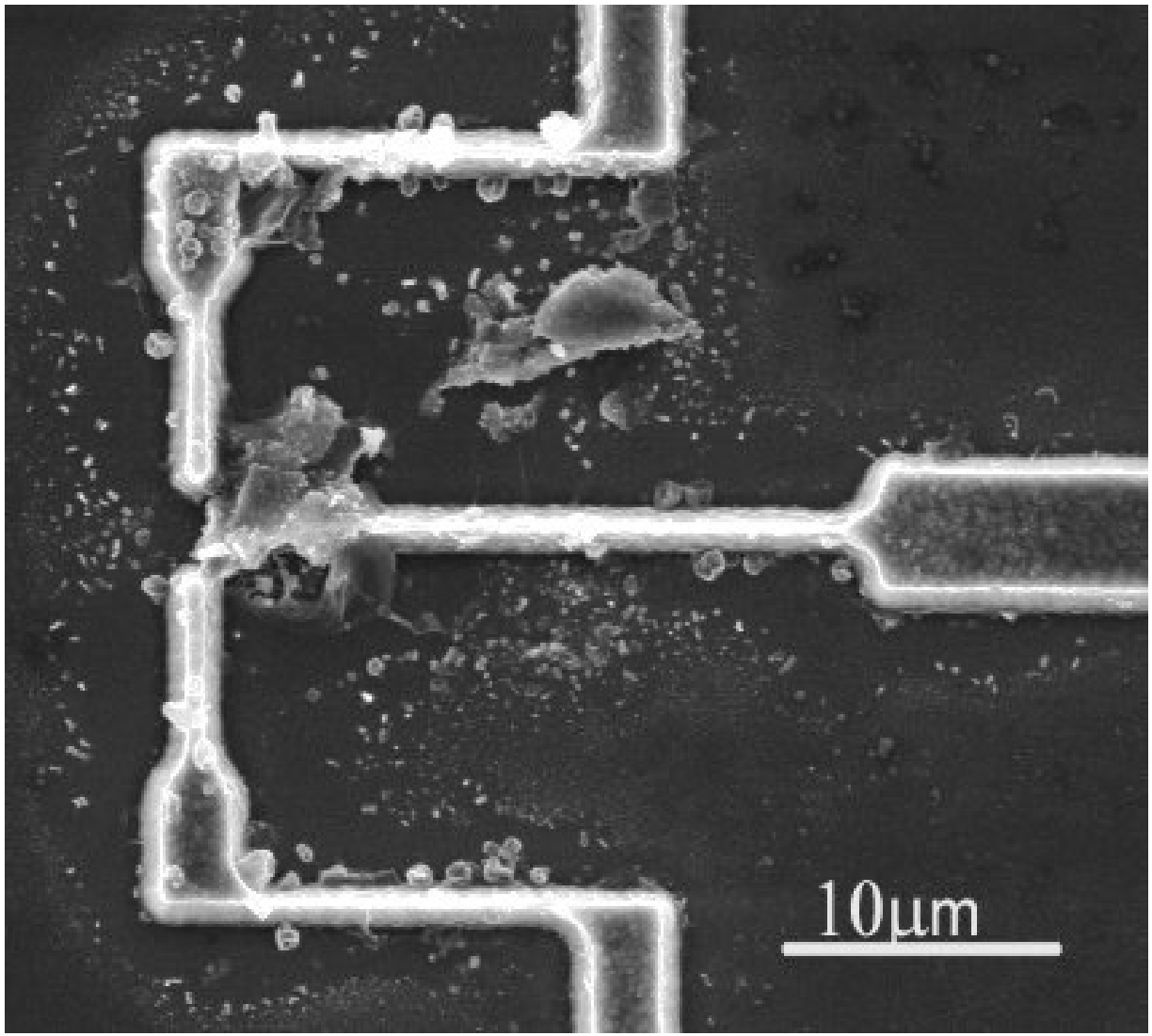
micro & nano - graph Contest

micro & nano - graph Title:

Ice Age

Description:

Clusters of Fe_2O_3 nanoparticles micro-contact printed on poly-Si microelectrodes.



Magnification: scale on the picture

Submitted by: Ramona Mateiu

Instrument: Philips XL 30 ESEM-FEG at CSEM S/A, Switzerland

Affiliation: SCF-Technologies A/S, Denmark

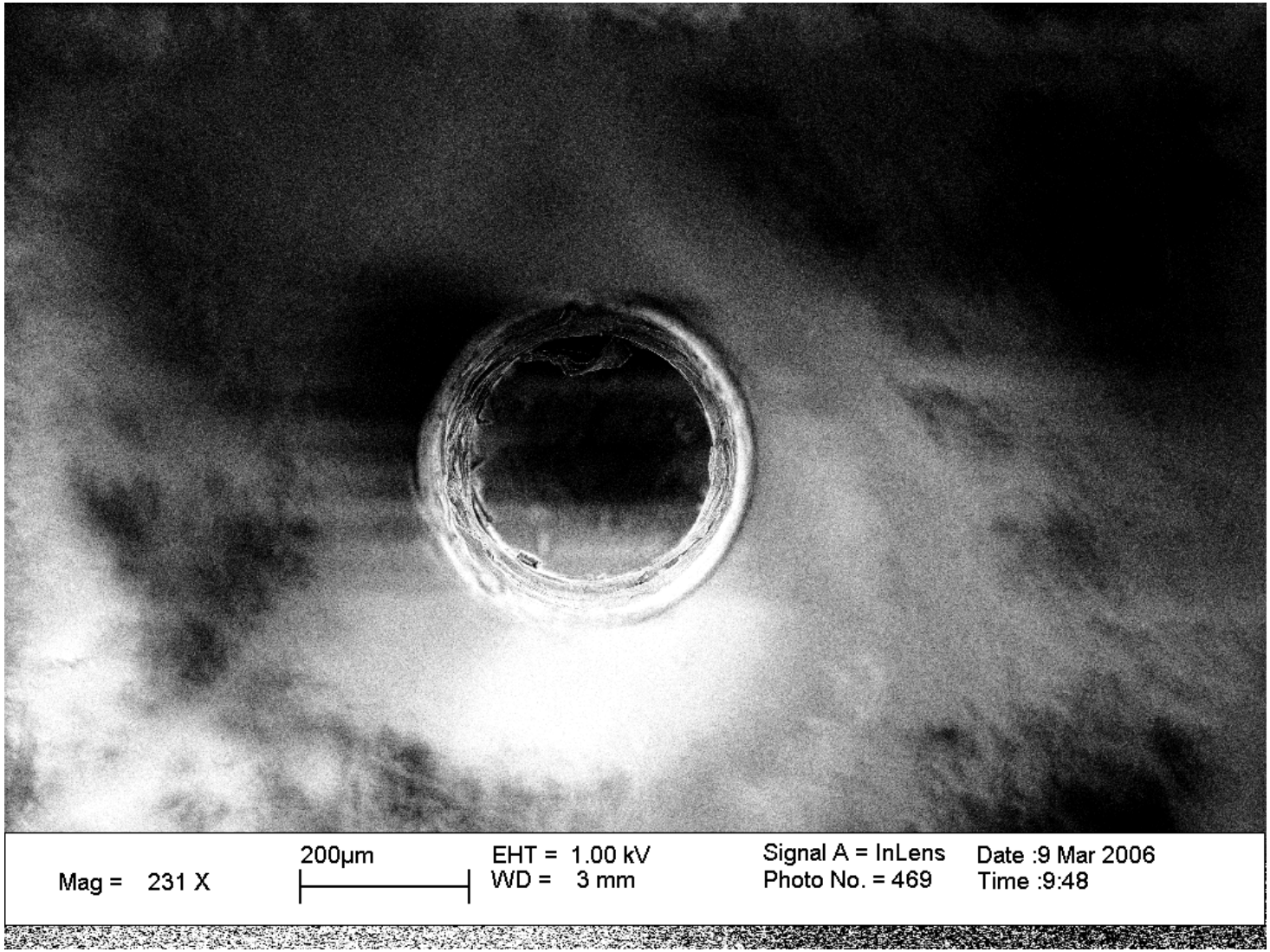
micro & nano - graph Contest

micro & nano - graph Title:

Black Moon

Description:

Hole milled in black-poly(methylmethacrylate) (i.e. COC/Topas® & carbon particles) with a 200 µm tool.



Magnification: scale on the picture

Instrument: LEO 1500 SEM-EDX at DANCHIP, Denmark

Submitted by: Ramona Mateiu

Affiliation: SCF-Technologies A/S, Denmark

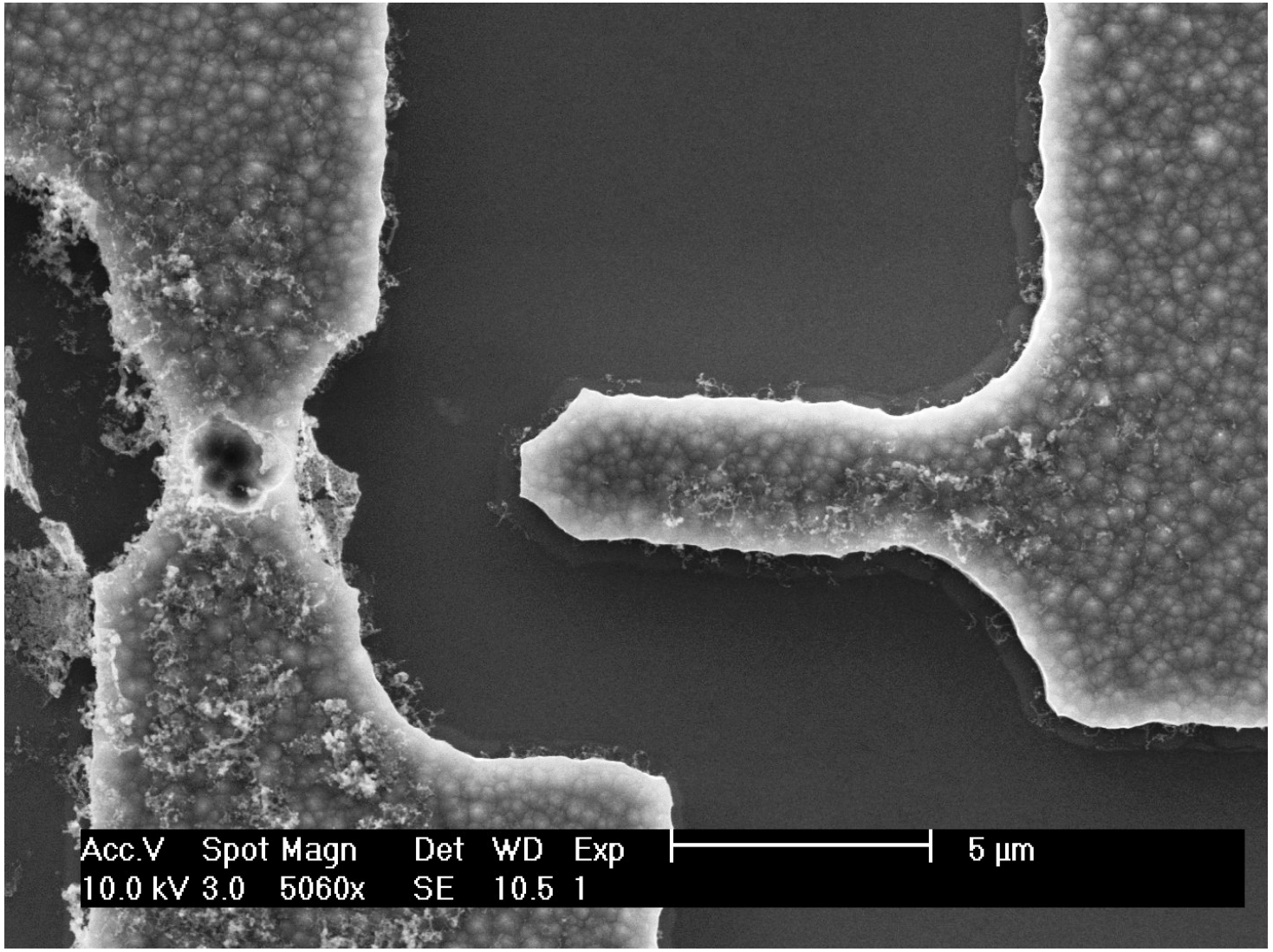
MNE 2006 micro & nano - graph Contest

micro & nano - graph Title:

Landscape @ the Microscale

Description:

Carbon nanotubes grown by electric field assisted chemical vapor deposition on poly-Si microelectrodes.



Magnification: scale on the picture

Submitted by: Ramona Mateiu

Instrument: Philips XL 30 ESEM-FEG at CSEM S/A, Switzerland

Affiliation: SCF-Technologies A/S, Denmark

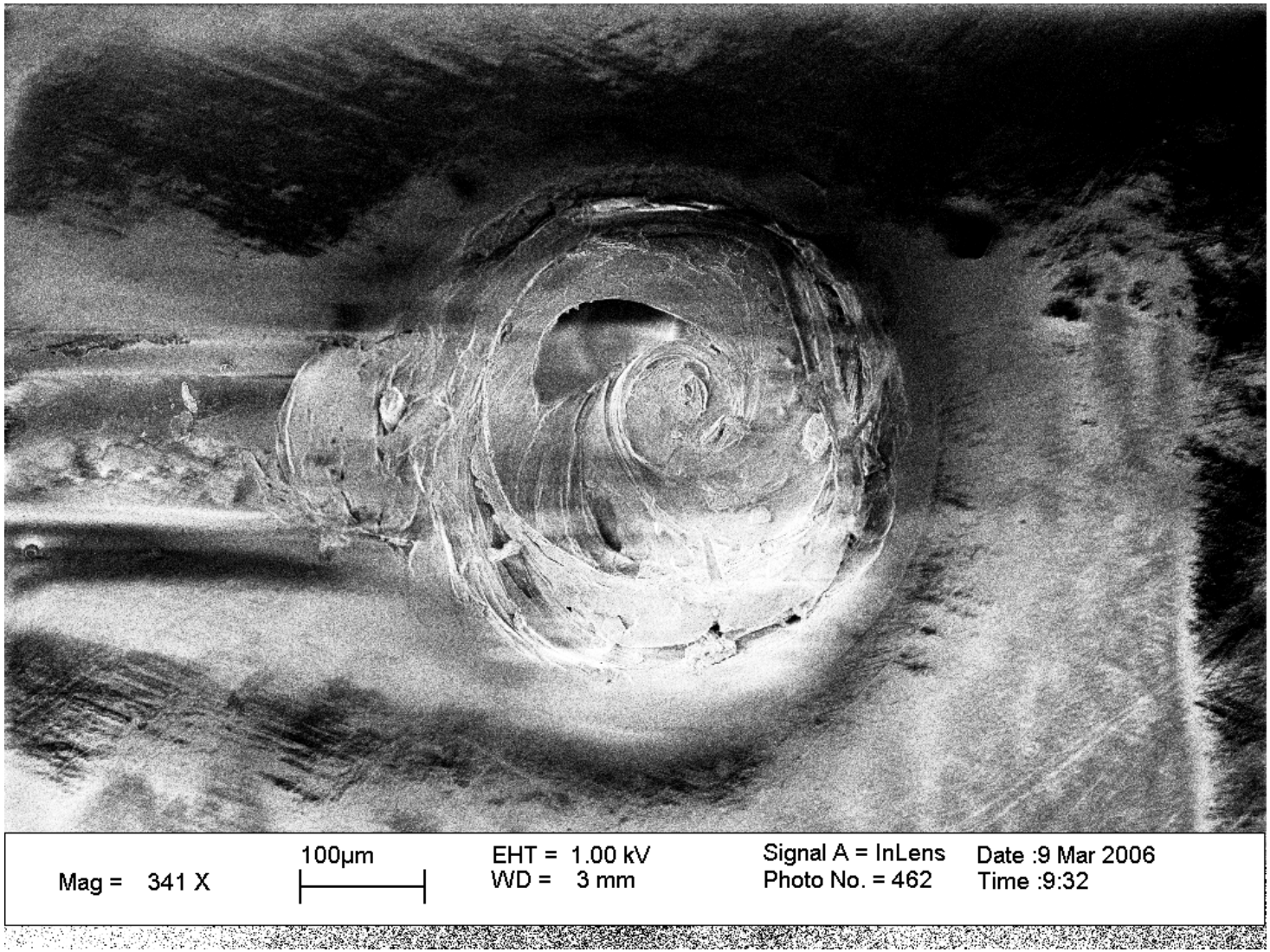
micro & nano - graph Contest

micro & nano - graph Title:

The Rose

Description:

Attempt to micro-mill a hole, 200 µm diameter, in black - poly(methylmethacrylate) (COC/Topas® with carbon particles). The milling speed was to high and the polymer melted.



Magnification: scale on the picture

Instrument: LEO 1500 SEM-EDX at DANCHIP, Denmark

Submitted by: Ramona Mateiu

Affiliation: SCF-Technologies S/A, Denmark

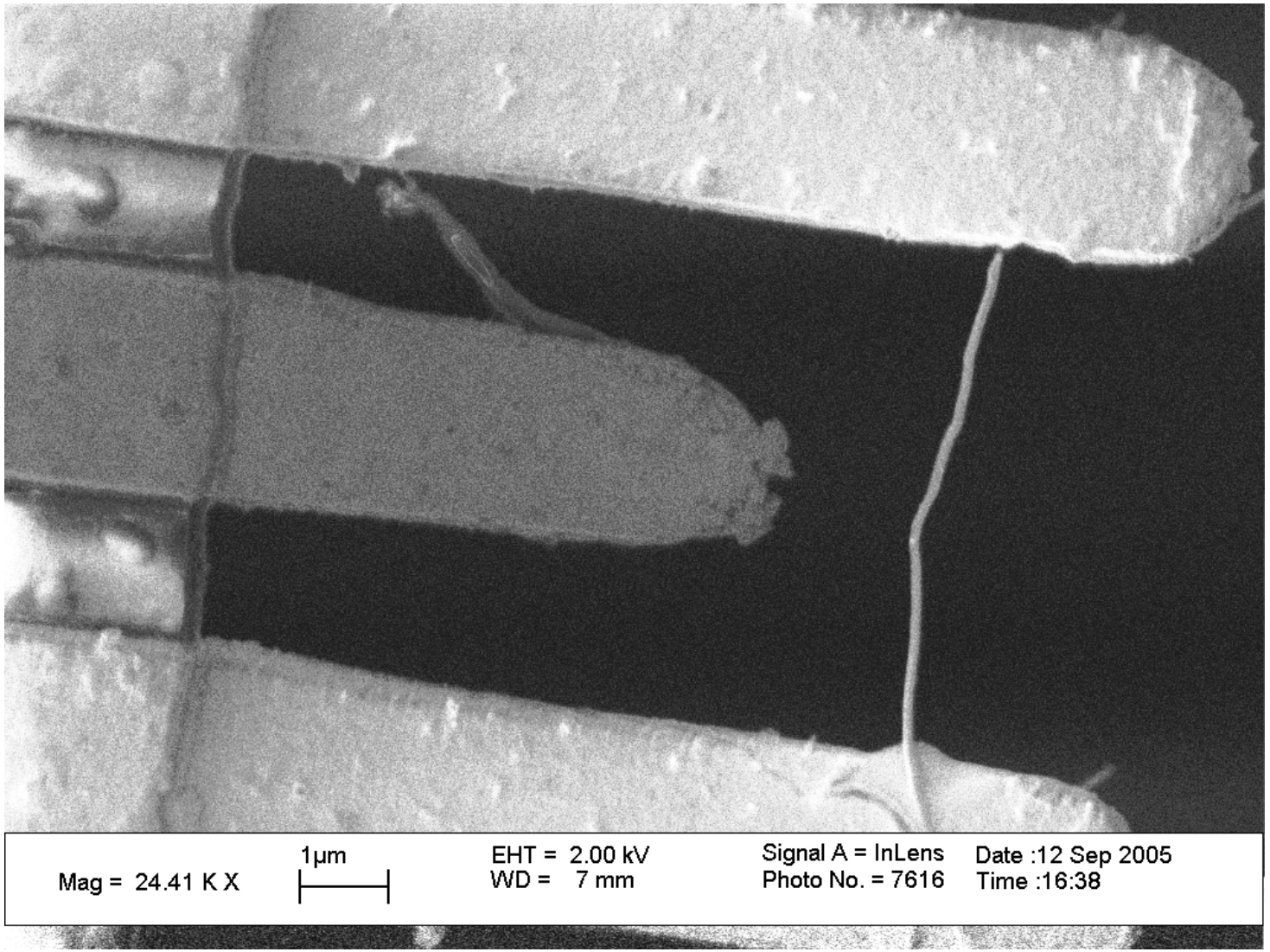
micro & nano - graph Contest

micro & nano - graph Title:

Nano Bridge

Description:

A single multi-walled carbon nanotube suspended between gold microelectrodes. A voltage is applied between the middle microelectrode and the outer ones with the nanotube. The middle microelectrode is grounded and therefore appears darker in the micrograph.



Magnification: scale on the picture

Instrument: LEO 1500 SEM-EDX at DANCHIP, Denmark

Submitted by: Ramona Mateiu

Affiliation: SCF-Technologies A/S, Denmark

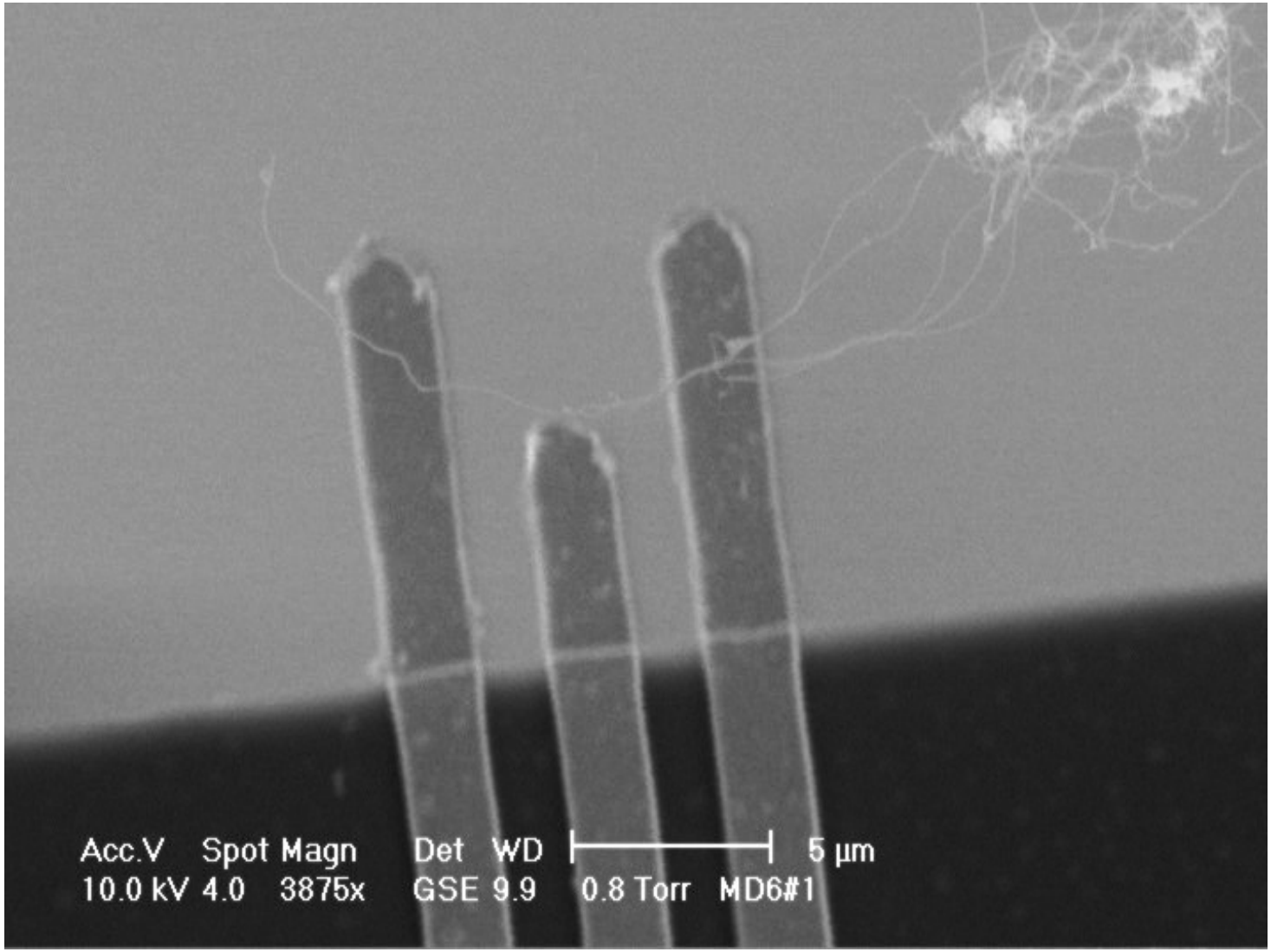
micro & nano - graph Contest

micro & nano - graph Title:

Spaghetti à la Nano

Description:

Gold microelectrodes approaching a single multi-walled carbon nanotube which extends in the open space from a bundle.



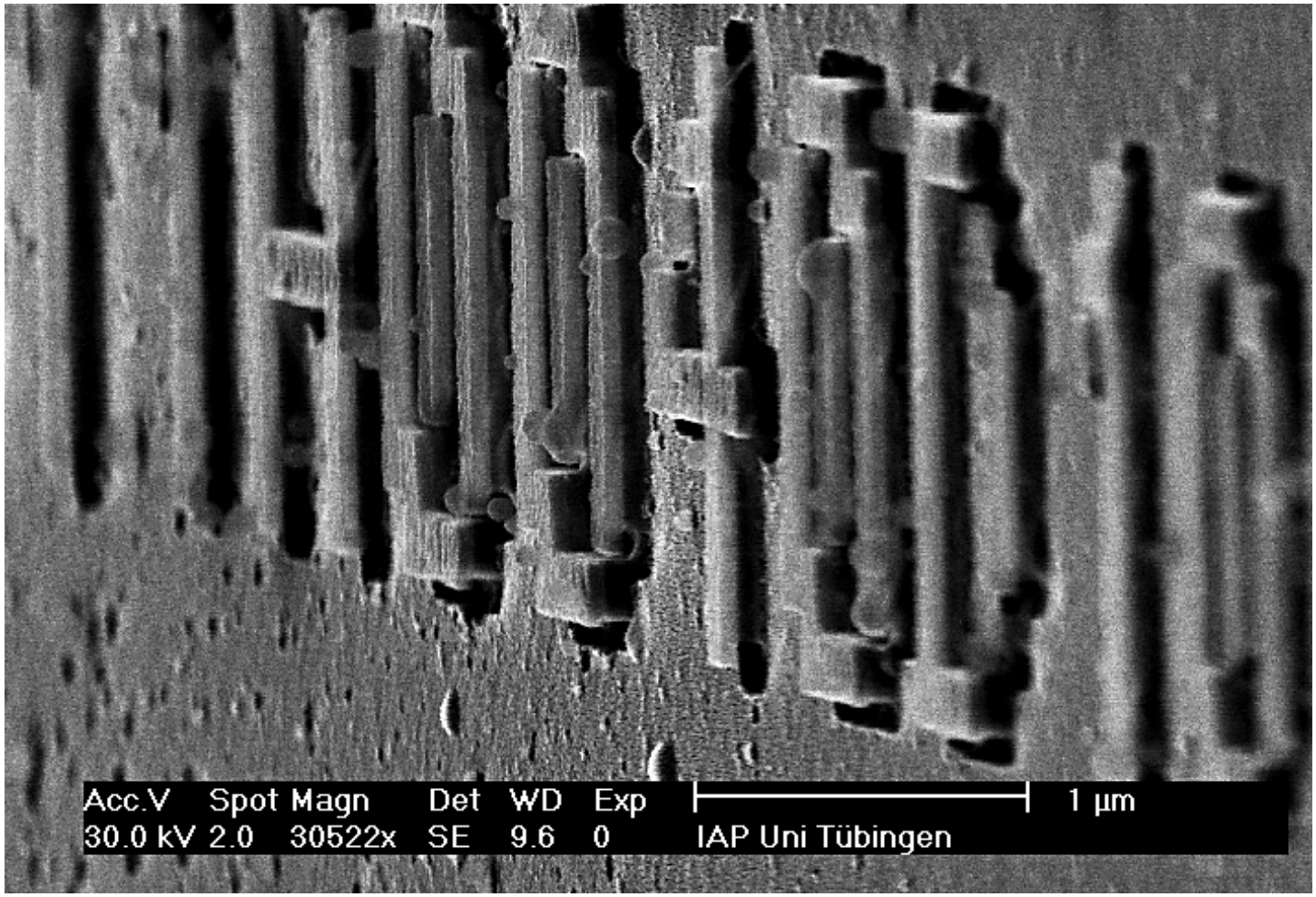
Magnification: scale on the picture

Submitted by: Ramona Mateiu

Instrument: E-SEM FEI XL 30, FEG at Haldor Topsøe A/S, Denmark

Affiliation: SCF-Technologies A/S, Denmark

micro & nano - graph Contest



micro & nano - graph Title:

Letters

Description:

Wet etched stamp for nanoimprint lithography. The letters are e-beam written into HSQ (Hydrogen Silsesquioxane) followed by development and a wet etch process with KOH.

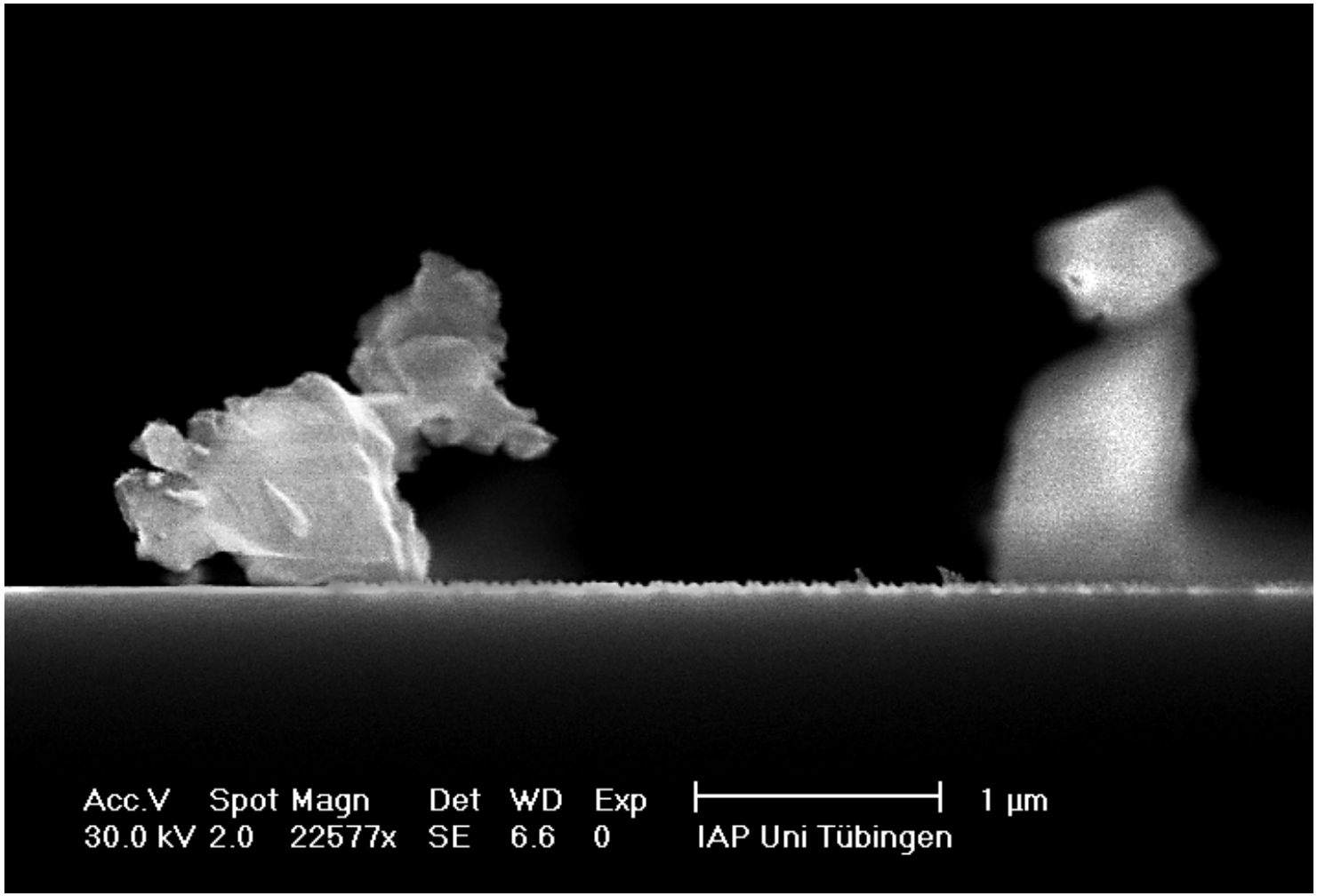
Magnification: Scale on the picture

Instrument: Philips XL30

Submitted by: Michael Häffner

Affiliation: Institute of Applied Physics, University of Tübingen

micro & nano - graph Contest



micro & nano - graph Title:

The Dog

Description:

Side view of two silicon particles, one reminding a dog and one reminding its owner. Infront of the dog parallel HSQ (Hydrogen Silsesquioxane) lines can be seen that look like gras.

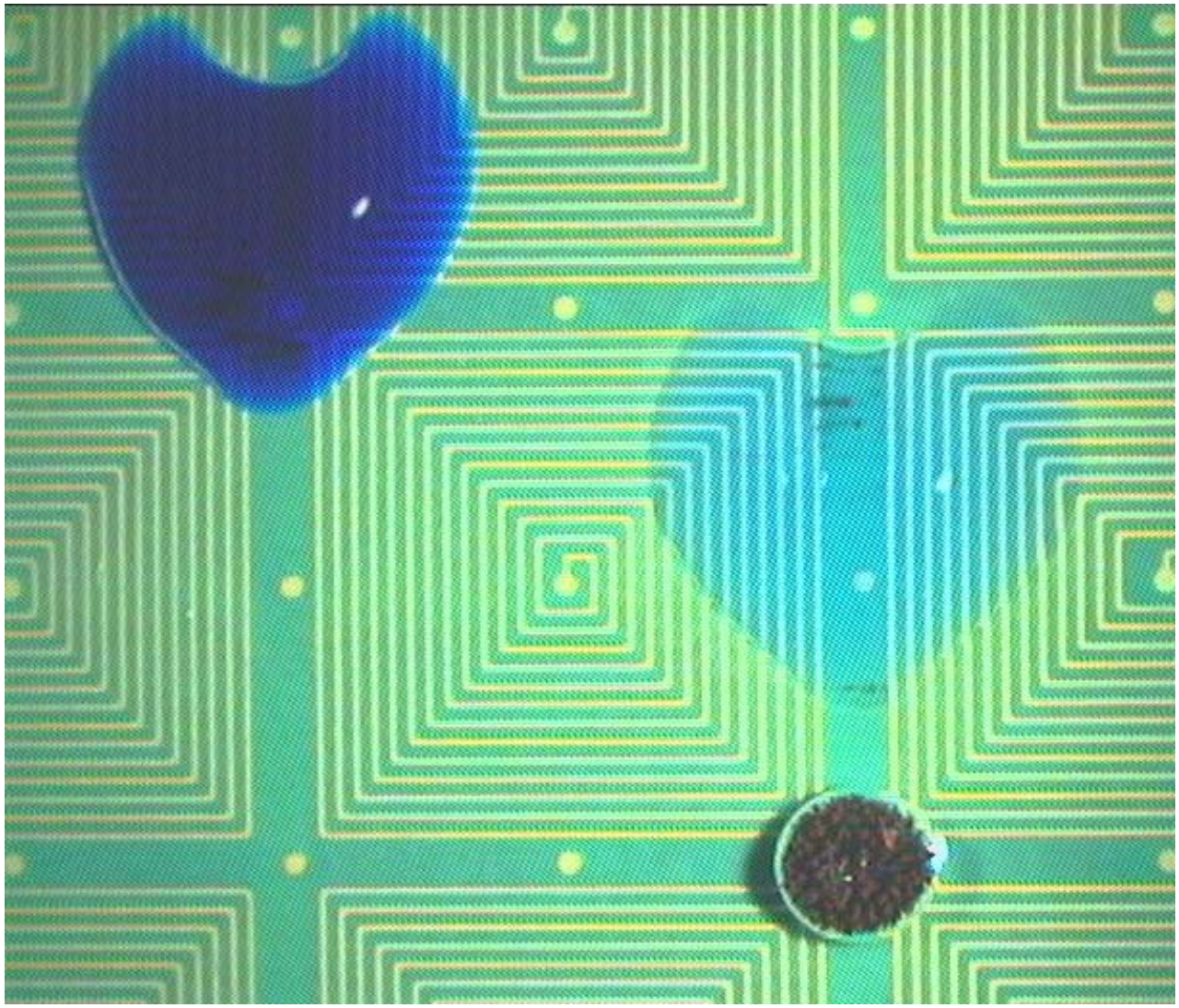
Magnification: Scale on the picture

Instrument: Philips XL30

Submitted by: Michael Häffner

Affiliation: Institute of Applied Physics, University of Tübingen

micro & nano - graph Contest



micro & nano - graph Title:

A tale of three droplets

Description:

Two immobilized colored water droplets and a droplet filled with magnetic particles on a Teflon surface over a Printed Circuit Board. The Teflon was locally treated with oxygen plasma to generate a hydrophilic pattern.

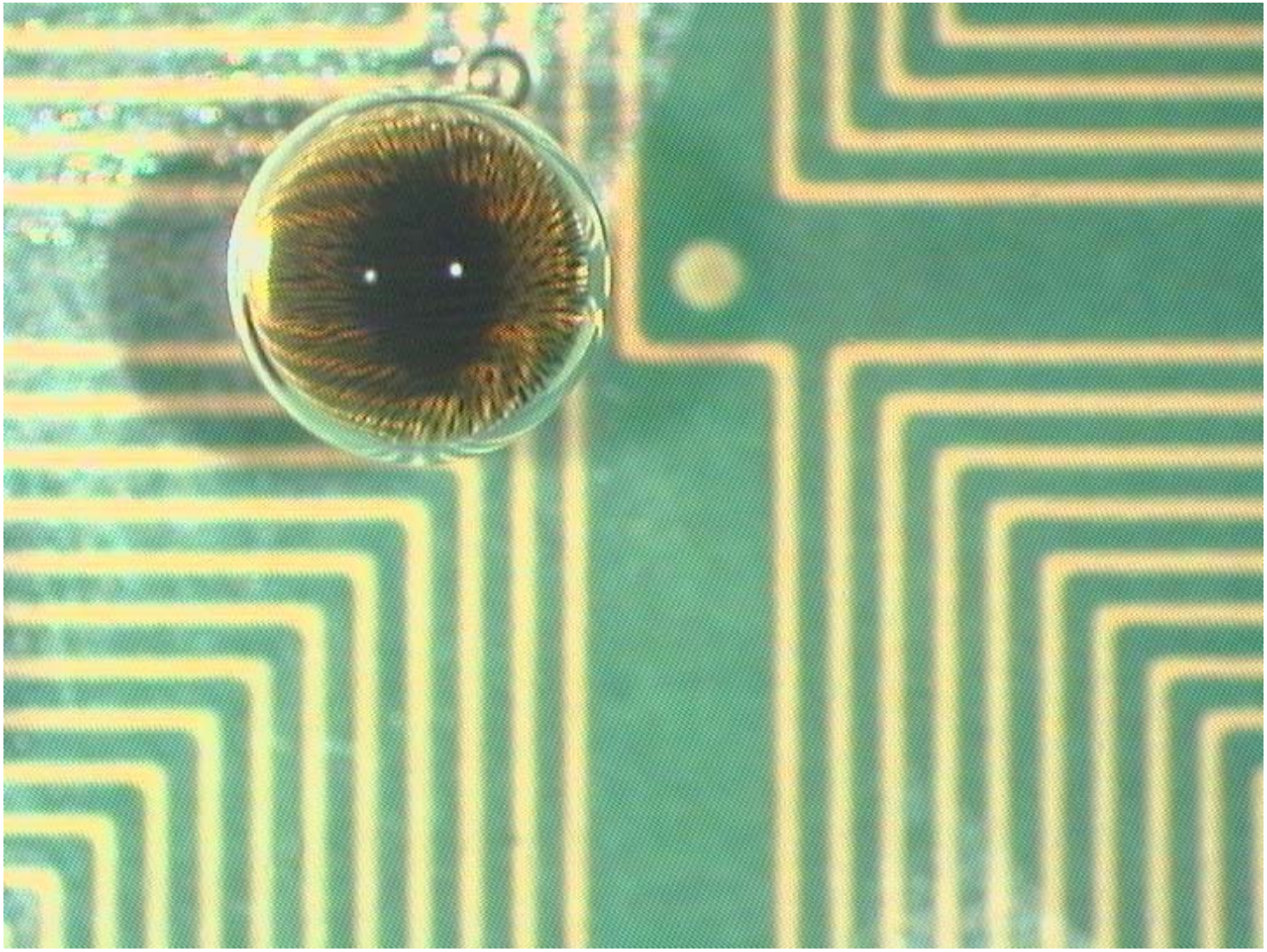
Magnification: 14X

Instrument: Zeiss Stemi SV6

Submitted by: Ulrike Lehmann

Affiliation: EPFL, Lausanne, Switzerland

MNE 2006 micro & nano - graph Contest



micro & nano - graph Title:

Little brother is watching you!

Description:

A magnetically actuated 1 μl water droplet containing super-paramagnetic particles of 250 nm diameter over a Teflon covered multilayer Printed Circuit Board. The droplet is submerged in silicone oil.

Magnification: 32x

Instrument: Zeiss Stemi V6

Submitted by: Ulrike Lehmann

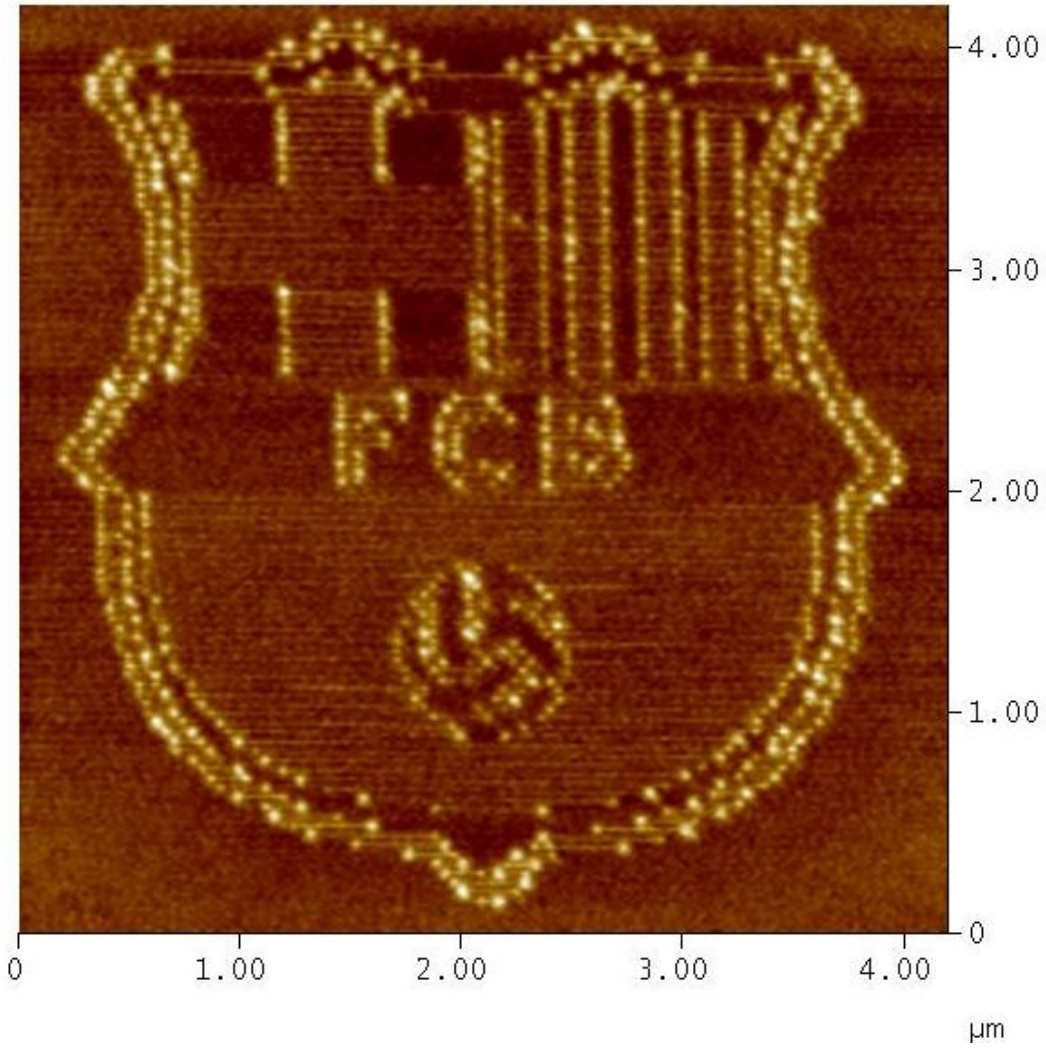
Affiliation: EPFL, Lausanne, Switzerland

micro & nano - graph Contest

micro & nano - graph Title:

More than a Football Club

Description:
AFM topographic image of a local oxidation performed using AFM on a silicon wafer.



Magnification:

Instrument: Dimension 3100 , Veeco

Submitted by: Cristina Martin Olmos

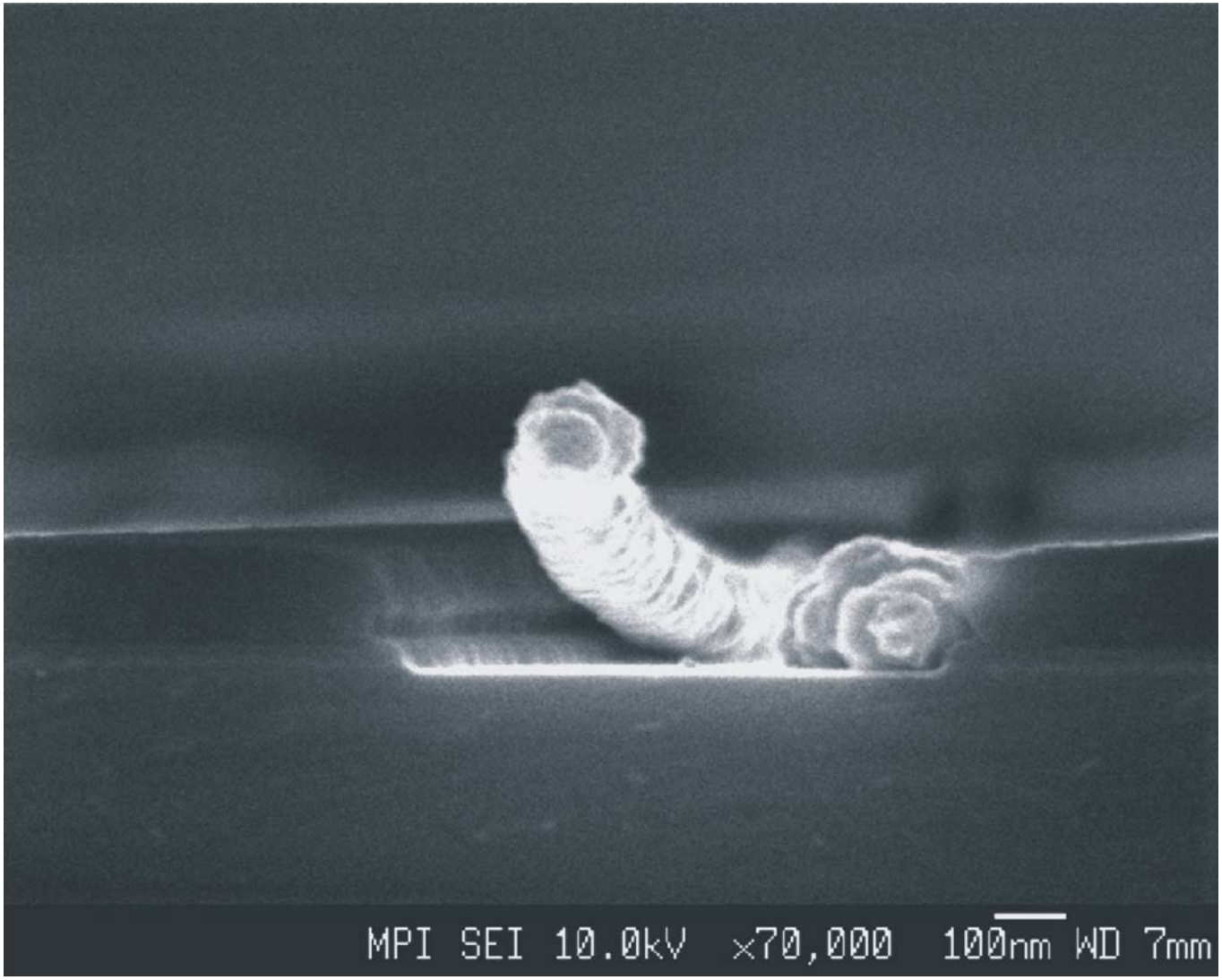
Affiliation: IMB-CNM-CSIC, Spain

MINE 2006 micro & nano - graph Contest

micro & nano - graph Title:
nano worm

Description:

Cross-section of electrodeposited gold nanowires on Si substrate.



Magnification: 70000x

Instrument: JEOL JSM 6340

Submitted by: Ran Ji

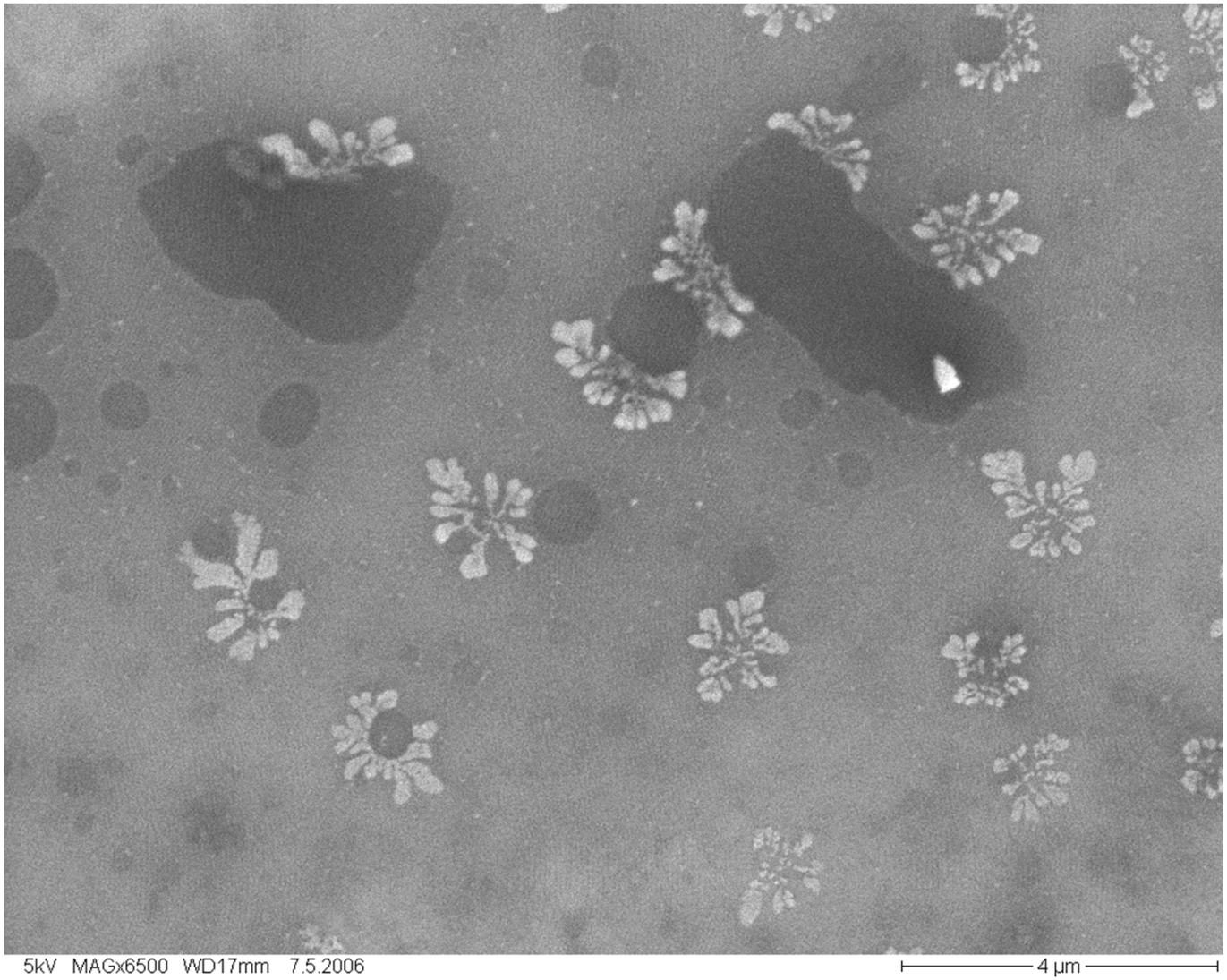
Affiliation: Max-Planck-Institute of microstructure physics, Germany

micro & nano - graph Contest

micro & nano - graph Title:
broccoli

Description:

Patterned Si substrate after electrochemical etching and cleaning.



Magnification: 6500x

Instrument: JEOL JSM 6300

Submitted by: Ran Ji

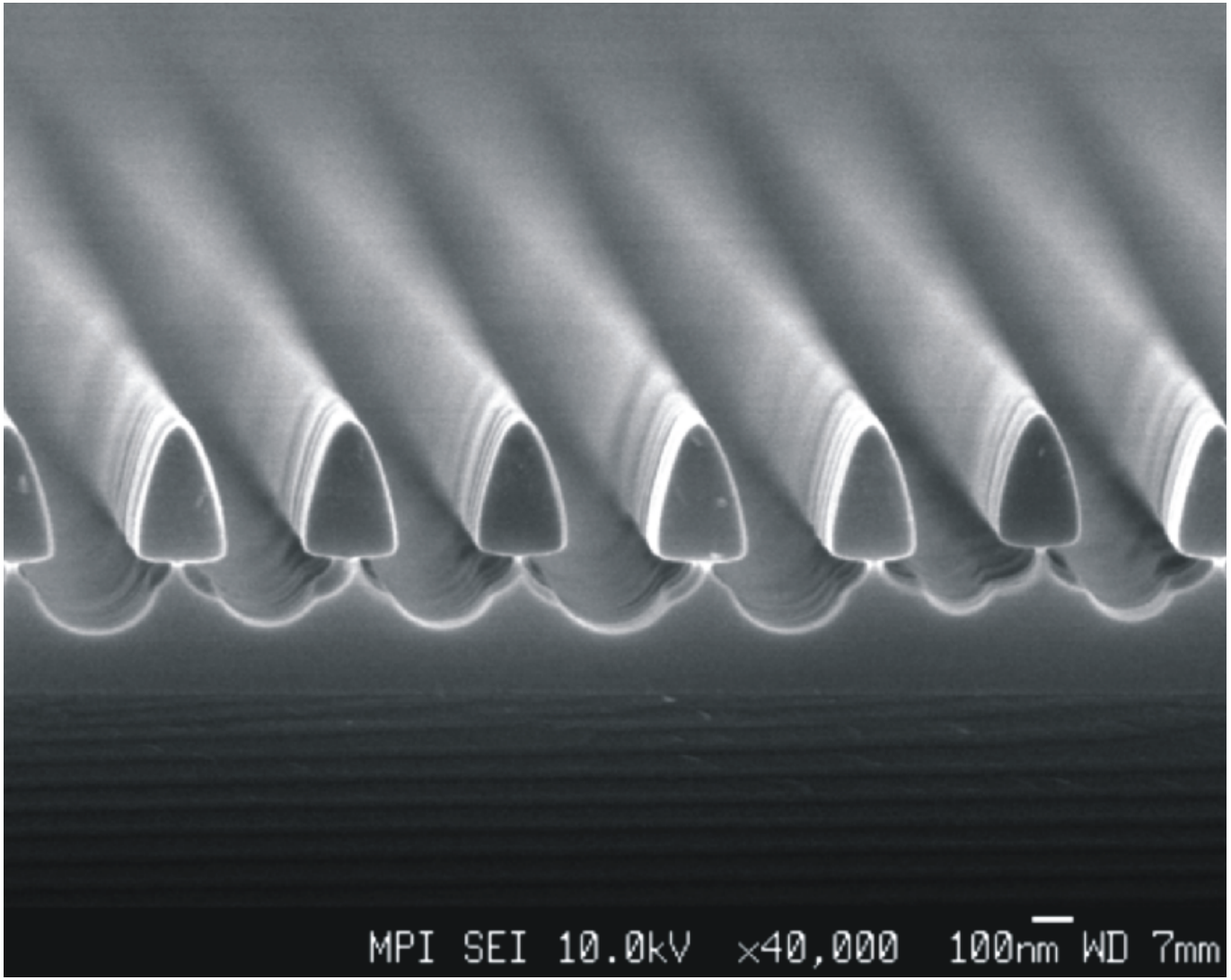
Affiliation: Max-Planck-Institute of microstructure physics, Germany

micro & nano - graph Contest

micro & nano - graph Title:
black spade array

Description:

Nanowire array fabricated on SOI wafer by using interference lithography and isotropic HF etching.



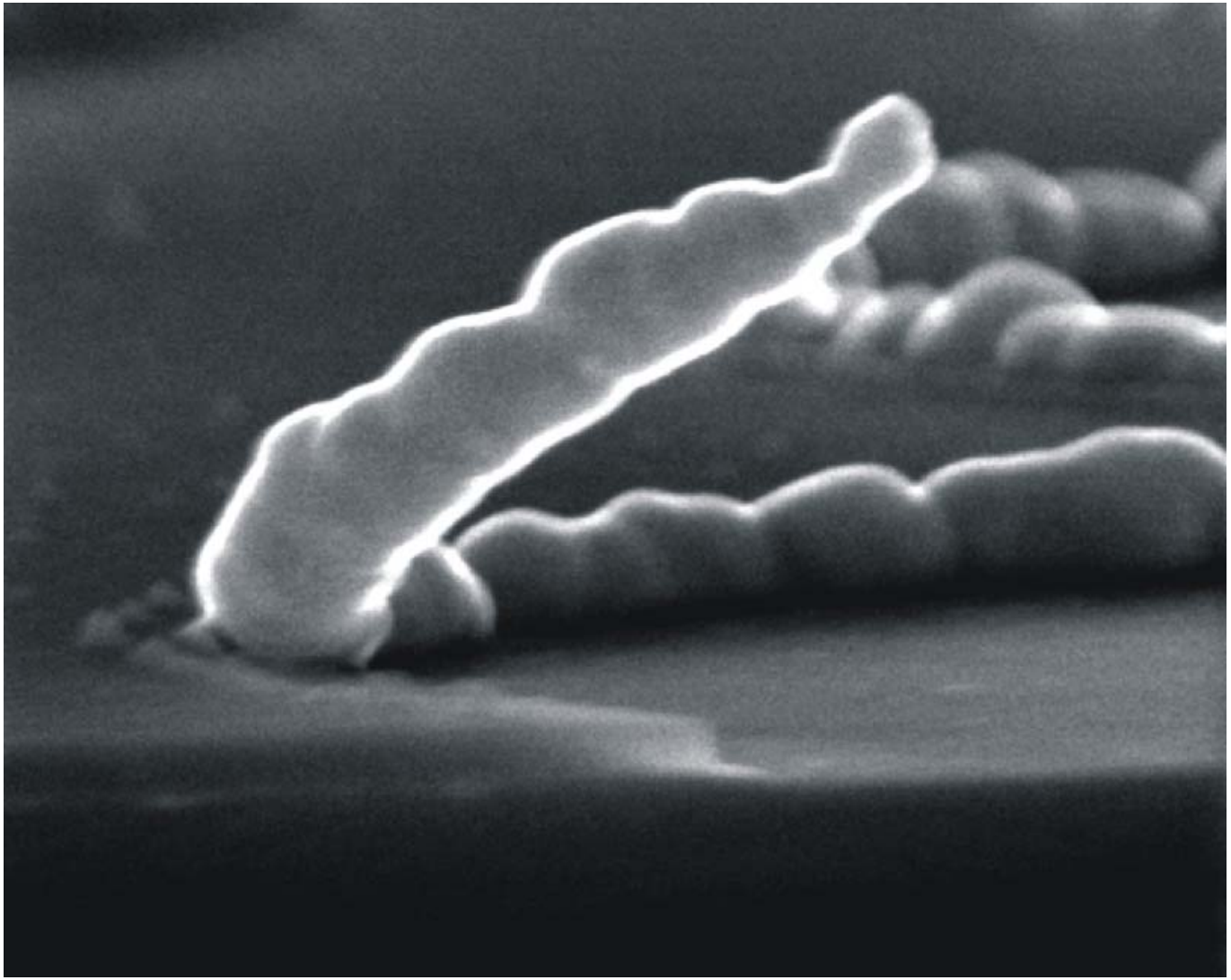
Magnification: 40000x

Instrument: JEOL JSM 6340

Submitted by: Ran Ji

Affiliation: Max-Planck-Institute of microstructure physics, Germany

micro & nano - graph Contest



micro & nano - graph
Title:
nano criocodile

Description:

A part of Au nanowire fabricated by templated electrodeposition

Magnification: 306000x

Instrument: JEOL JSM 6340

Submitted by: Ran Ji

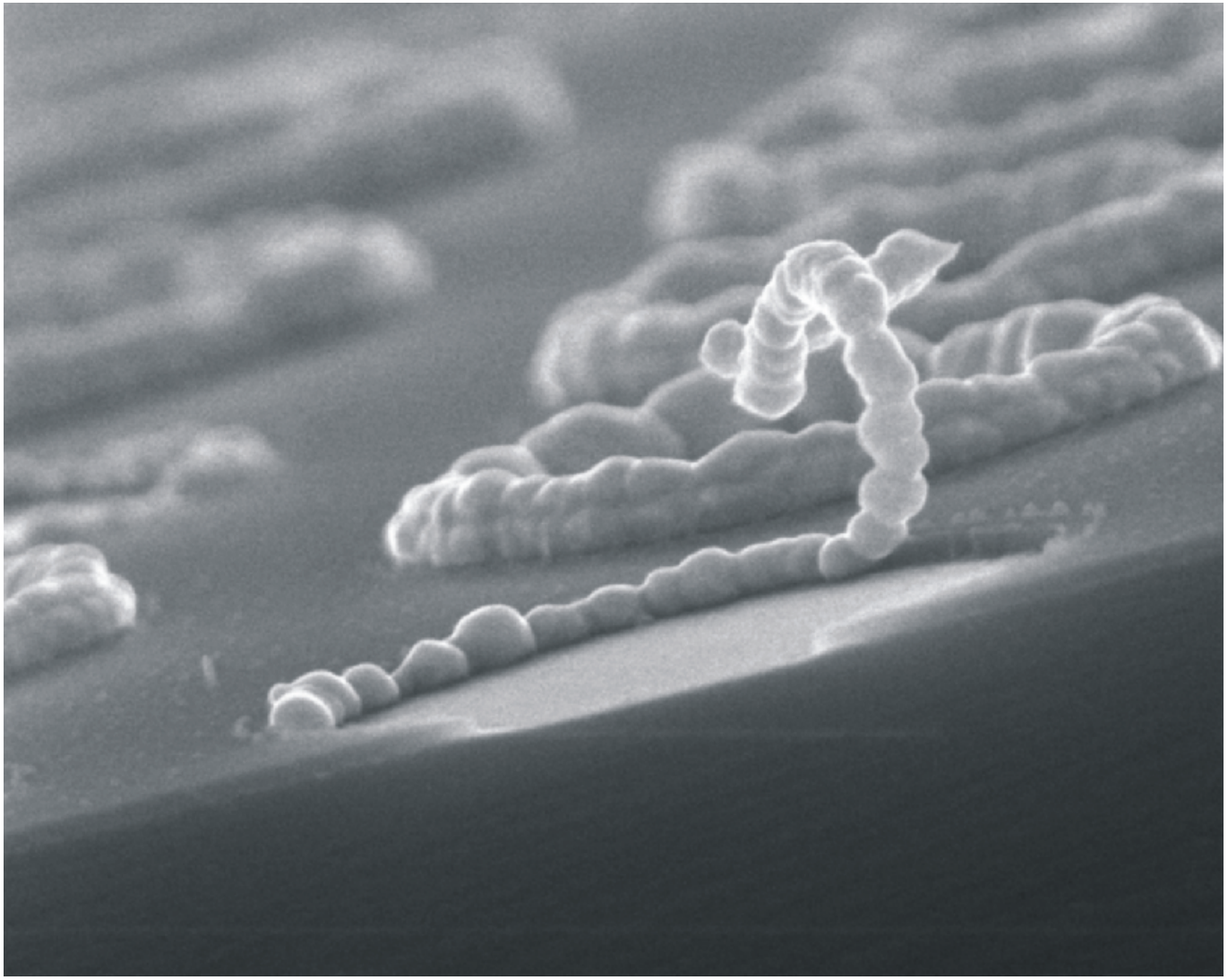
Affiliation: Max-Planck-Institute of microstructure physics, Germany

micro & nano - graph Contest

micro & nano - graph Title:
nano snake

Description:

Bowing of a gold nanowire



Magnification: 124000x

Instrument: JEOL JSM 6340

Submitted by: Ran Ji

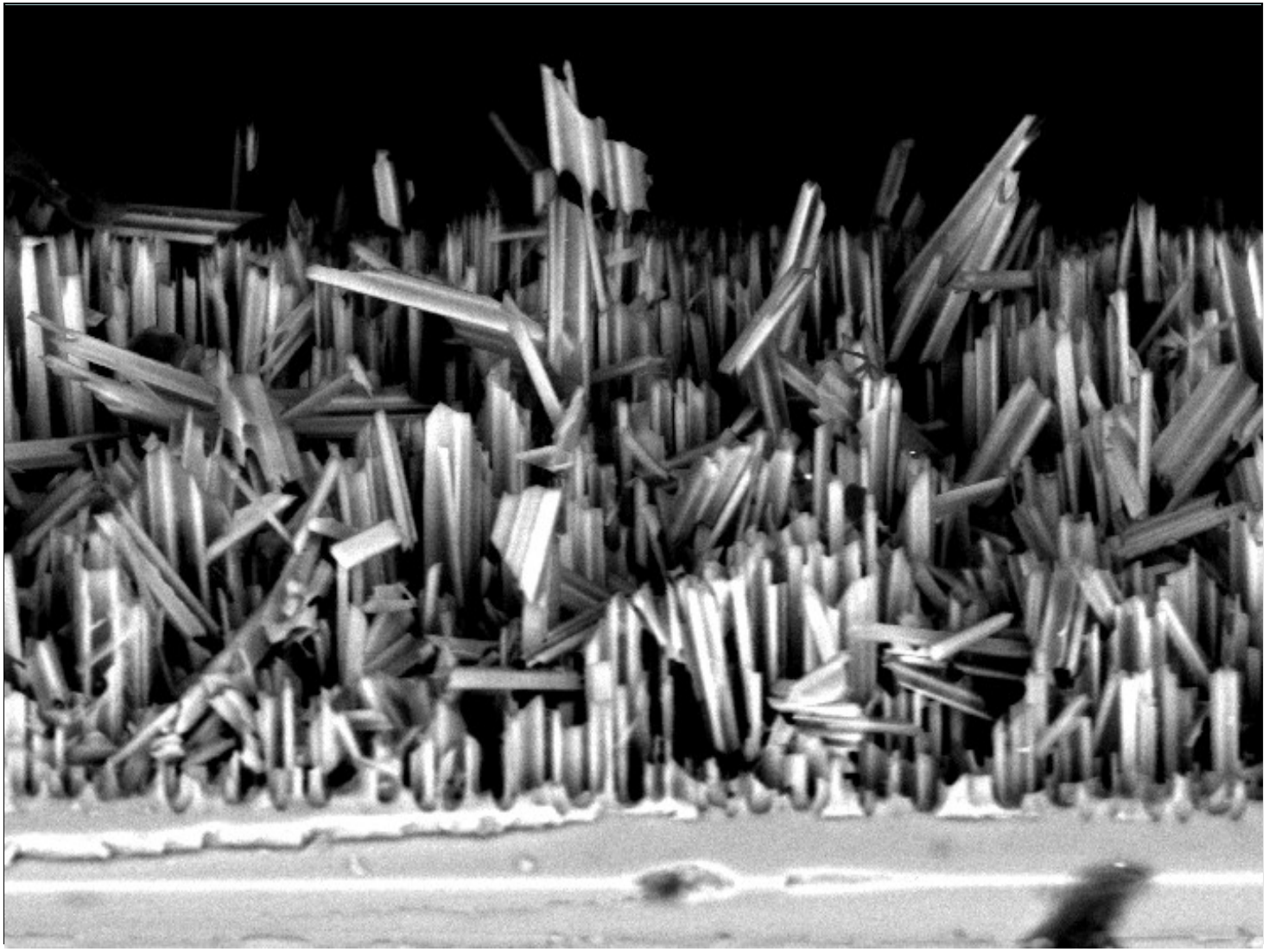
Affiliation: Max-Planck-Institute of microstructure physics, Germany

MINE 2006 micro & nano - graph Contest

micro & nano - graph Title:

The Fall of the Crystal Jungle

Description:
A broken silicon macroporous structure built on P-type silicon wafer.



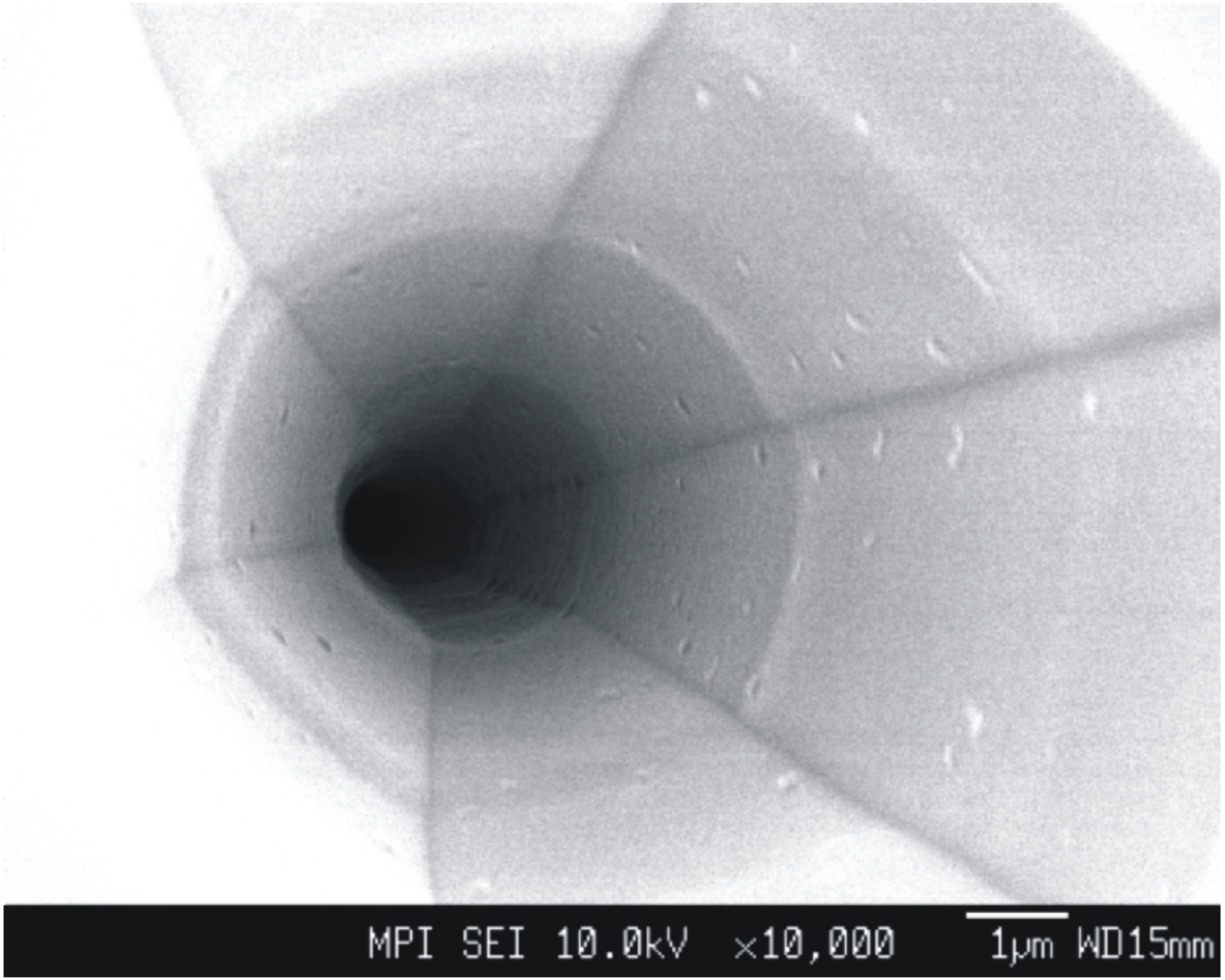
Magnification: 500x

Instrument: Philips XL30cp, SEM

Submitted by: Ana Sancho

Affiliation: CEIT, Microsystems Unit (Spain)

micro & nano - graph Contest



micro & nano - graph Title:
time tunnel

Description:

Anisotropic electrochemical etched Si hole

Magnification: 10000x

Instrument: JEOL JSM 6340

Submitted by: Ran Ji

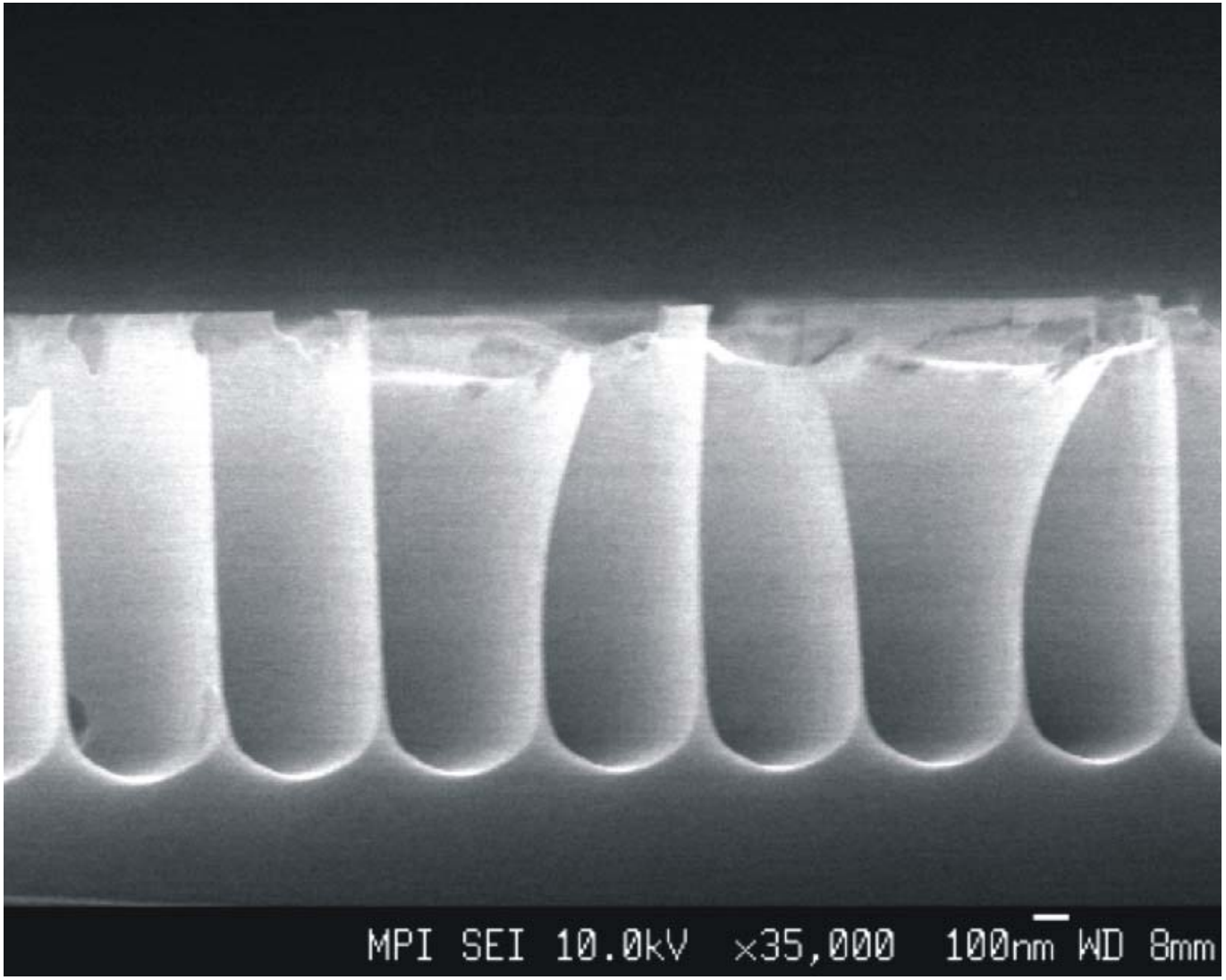
Affiliation: Max-Planck-Institute of microstructure physics, Germany

micro & nano - graph Contest

micro & nano - graph Title:
silicon paper

Description:

(110) Si structure after oxidation and Hf etching formed very thin Si nanofins



Magnification: 35000x

Instrument: JEOL JSM 6340

Submitted by: Ran Ji

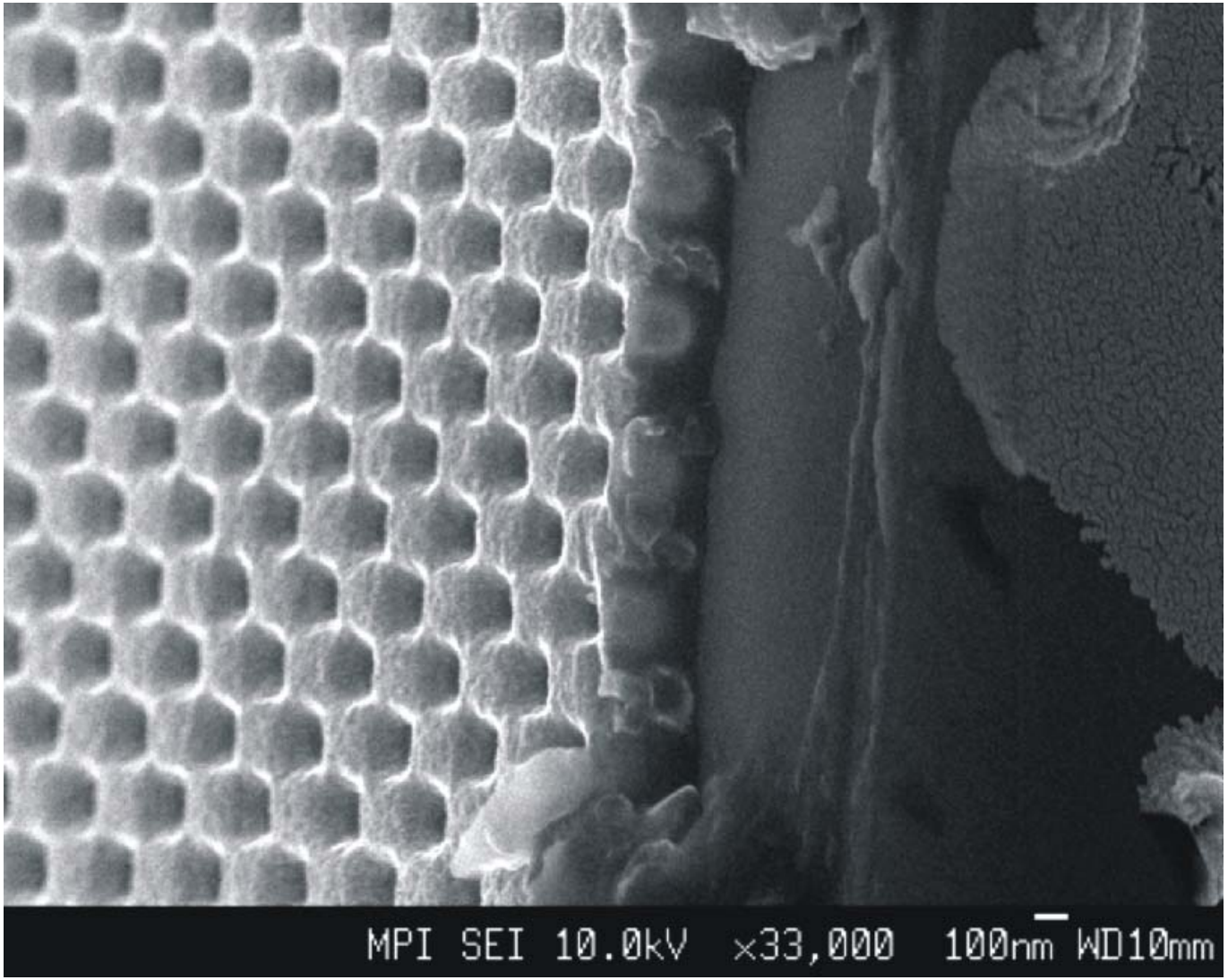
Affiliation: Max-Planck-Institute of microstructure physics, Germany

micro & nano - graph Contest

micro & nano - graph Title:
honeycomb

Description:

Photoresist structure obtained by interference lithography



Magnification: 33000x

Instrument: JEOL JSM 6340

Submitted by: Ran Ji

Affiliation: Max-Planck-Institute of microstructure physics, Germany

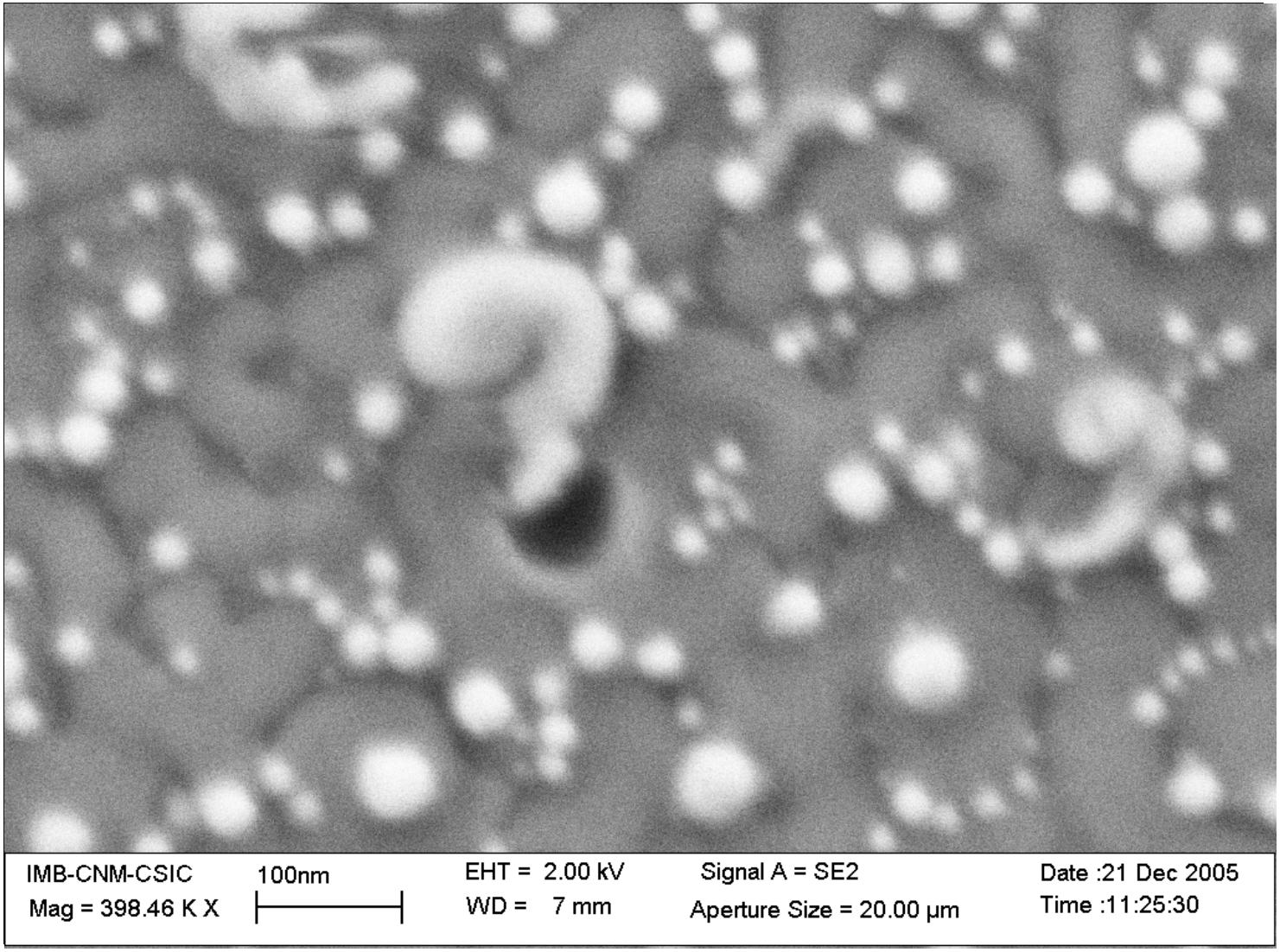
micro & nano - graph Contest

micro & nano - graph Title:

Little worm

Description:

Amorphous carbon nanotube grown on a metal surface



Magnification: 398. kX

Instrument: Leo 1530 SEM

Submitted by: Gemma Rius

Affiliation: IMB-CNM-CSIC, Spain

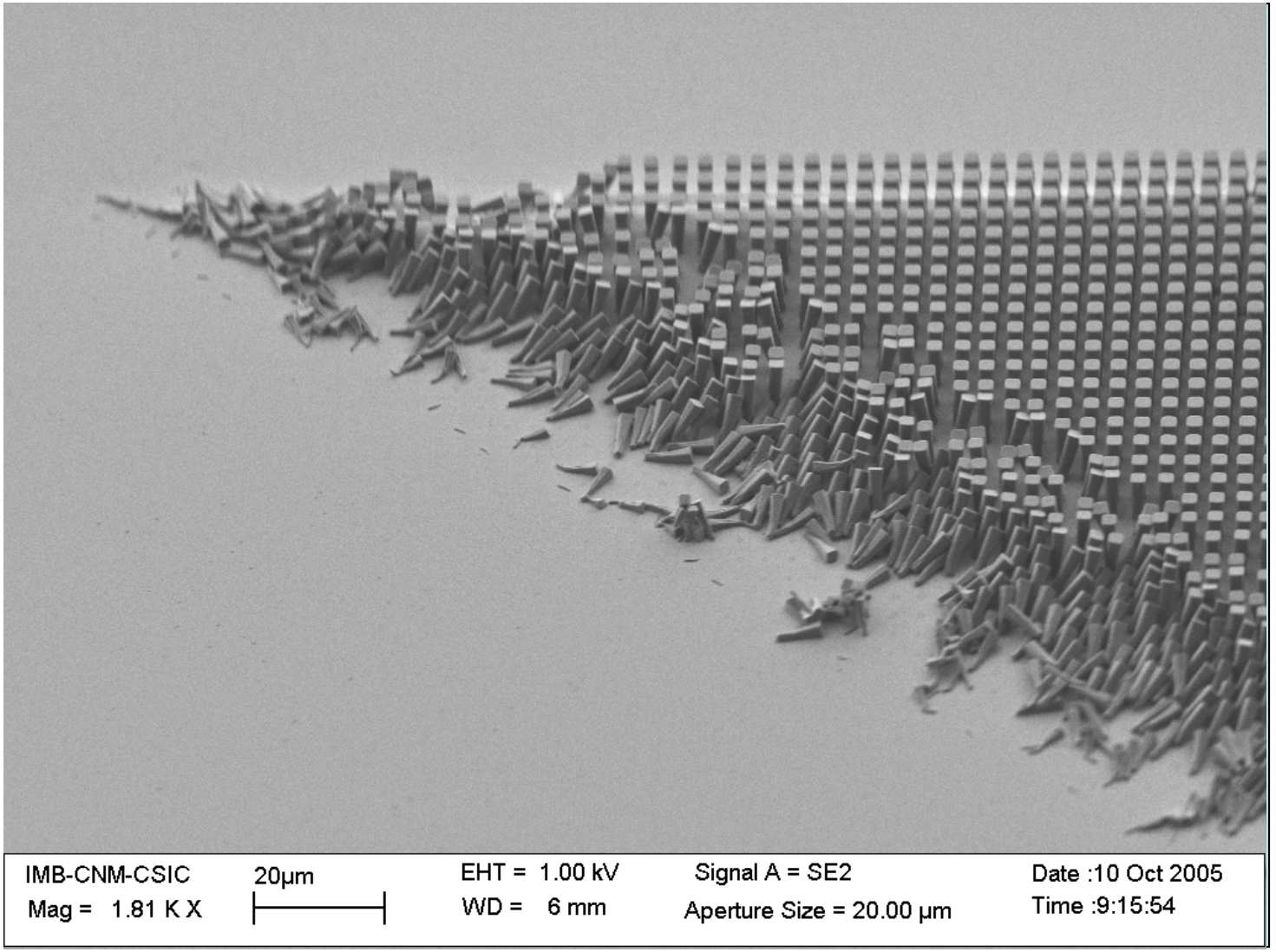
micro & nano - graph Contest

micro & nano - graph Title:

The wave

Description:

Optical lithography on SU-8 resist after development.



Magnification: 1.81 kX

Instrument: Leo 1530 SEM

Submitted by: Gemma Rius

Affiliation: IMB-CNM-CSIC, Spain

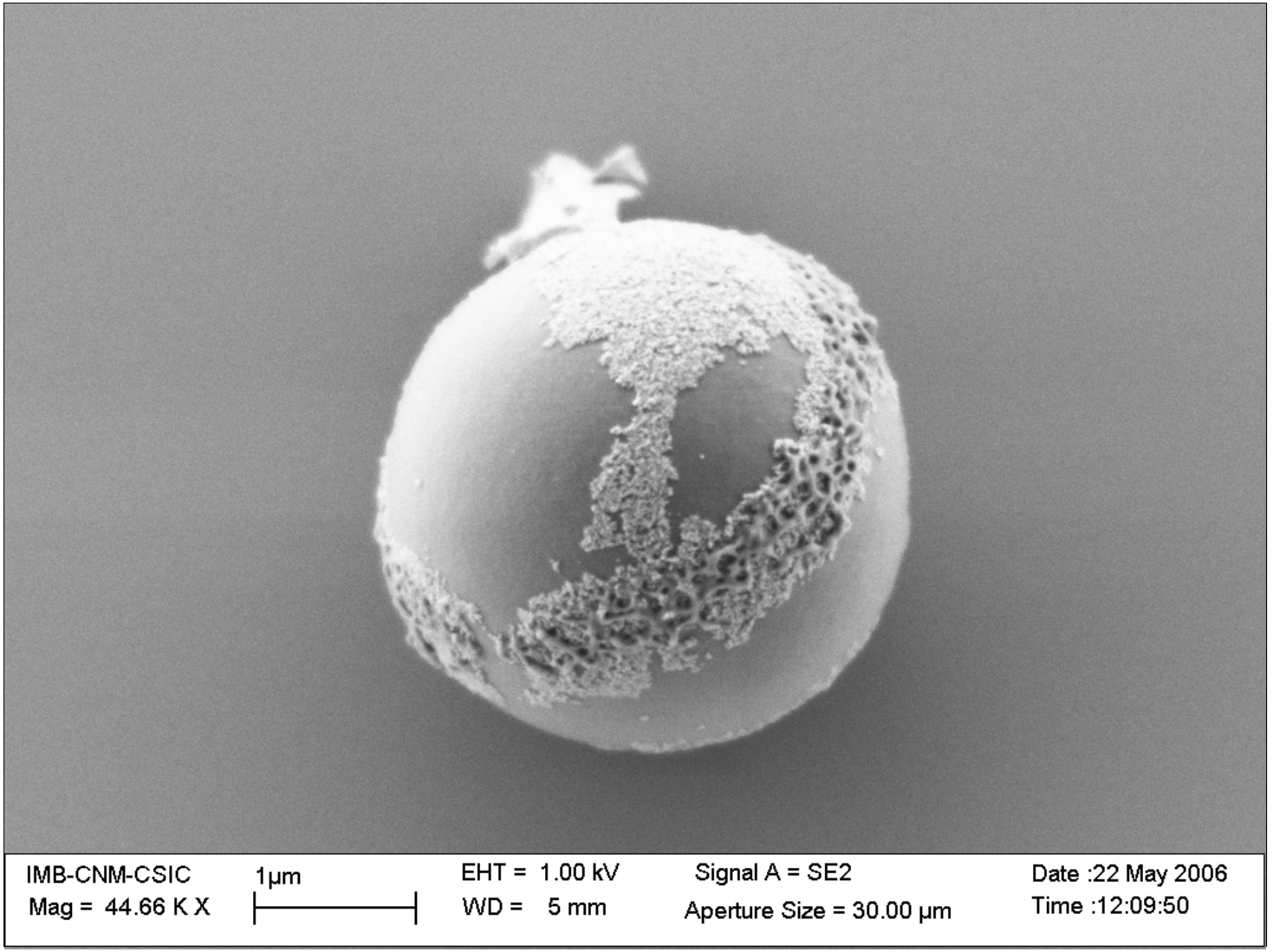
MINE 2006 micro & nano - graph Contest

micro & nano - graph Title:

The other Earth

Description:

Polymer residues on a Si surface



Magnification: 44.66 kX

Instrument: Leo 1530 SEM

Submitted by: Gemma Rius

Affiliation: IMB-CNM-CSIC, Spain

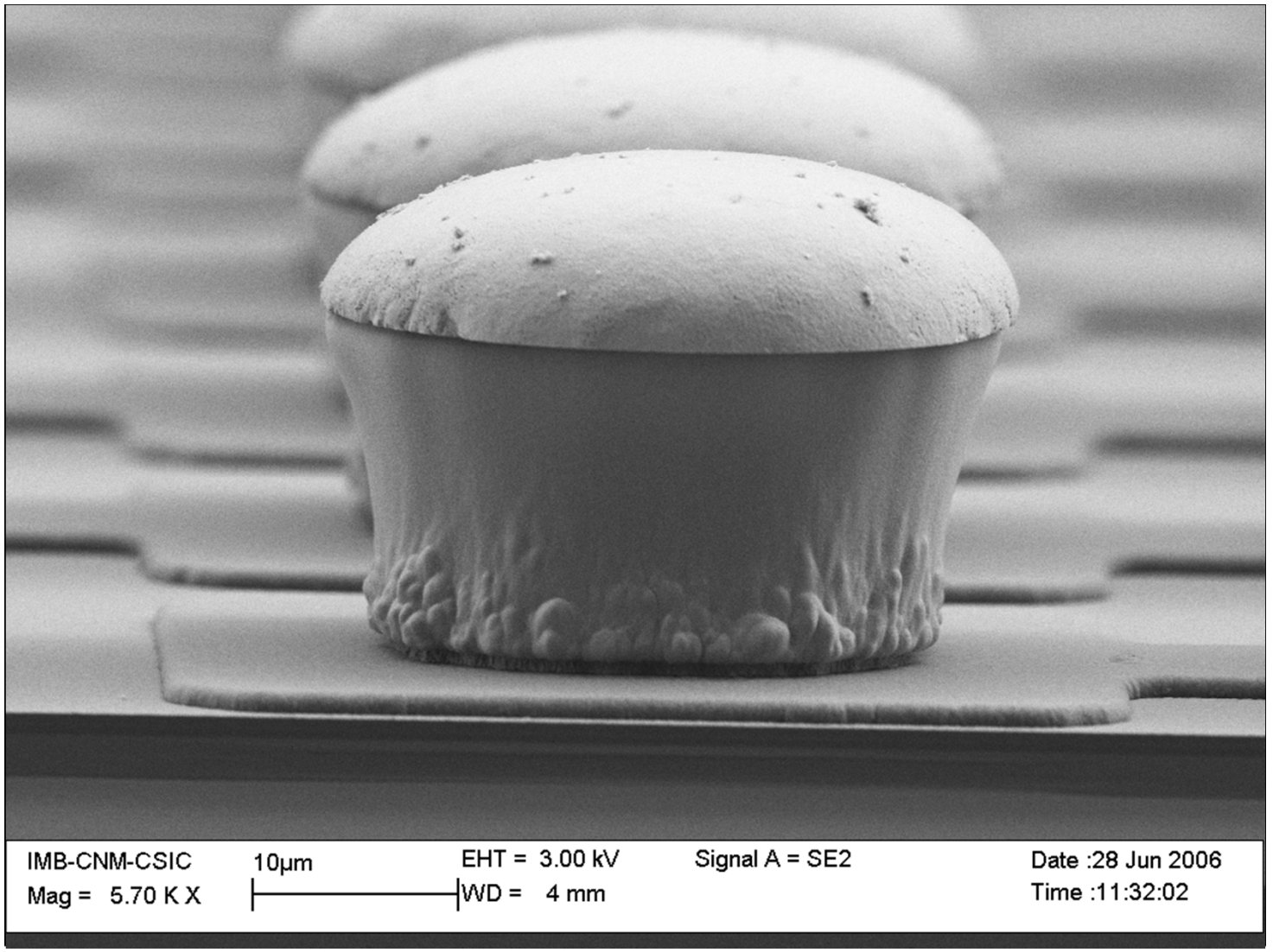
micro & nano - graph Contest

micro & nano - graph Title:

Muffins

Description:

Optimization of technology for solder bumps



Magnification: 5.7 kX

Submitted by: Gemma Rius

Co-author: Marc Bigas

Instrument: Leo 1530 SEM

Affiliation: IMB-CNM-CSIC, Spain

micro & nano - graph Contest

micro & nano - graph Title:

The Euro Etch Failure

Description:

HNA Isotropic etching of Silicon masked by Silicon Nitride. EURO-shaped etch failure

Magnification: 25x
Submitted by: Alexander Doll
Instrument: Olympus Microscope
Affiliation: IMTEK Freiburg, Germany

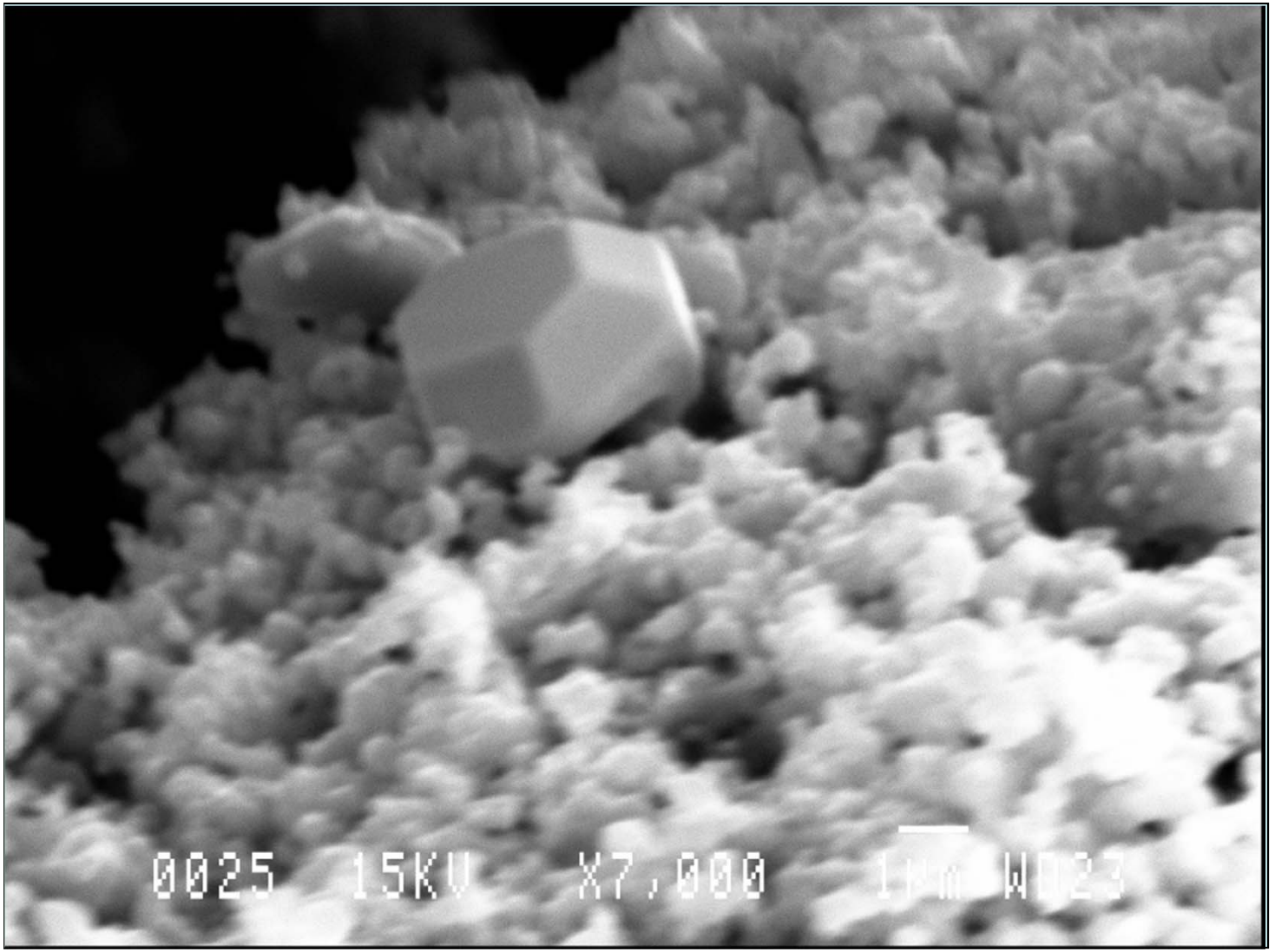
MINE 2006 micro & nano - graph Contest

micro & nano - graph

Title: **Platinum**

Description:

Unusual agglomeration of platinum on the surface of nanosized titania.



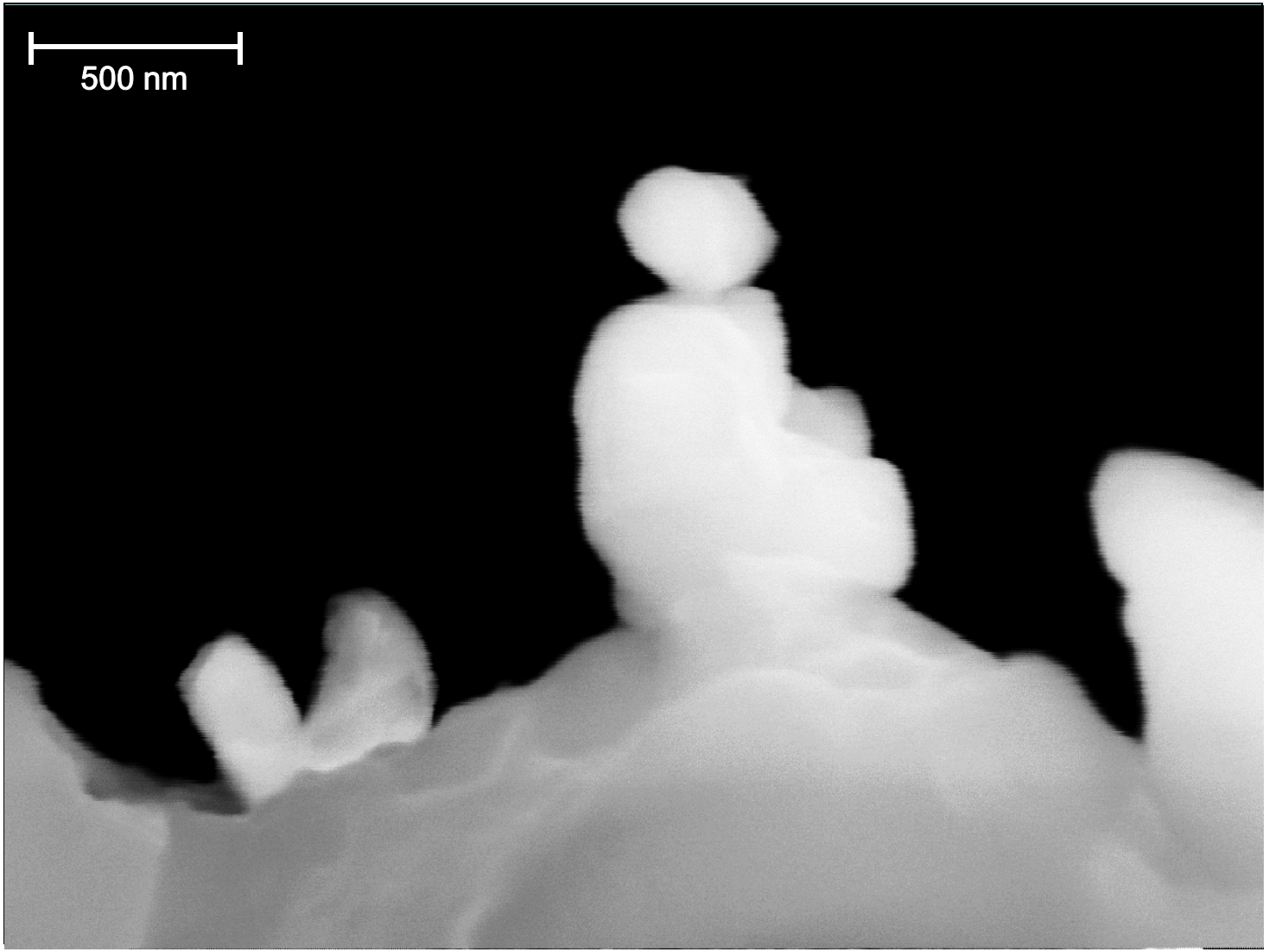
Magnification: x7000

Submitted by: Ana Ruiz

Instrument: Jeol JSM-840 (SEM)

Affiliation: Joint Research Center, Italy

micro & nano - graph Contest



micro & nano - graph Title:
Snowman watched by snow-bunny

Description:
Gold coating at the edge of a GaAs/AlGaAs-heterostructure sample after writing a lateral split-gate quantum dot and subsequent thin-film deposition and lift-off.

Magnification: see scale
Instrument: Philips XL 30 SEM

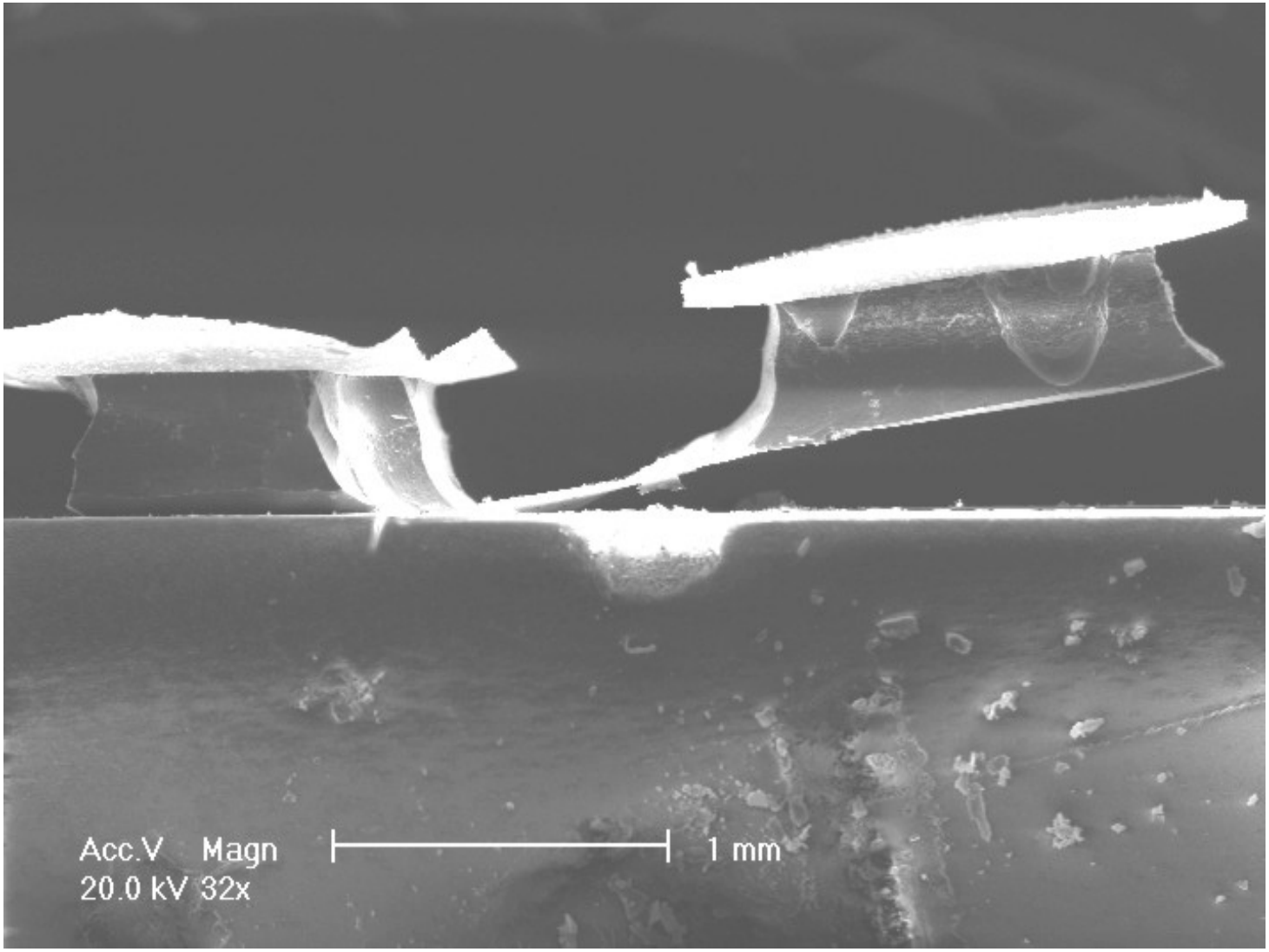
Submitted by: Monika Fleischer
Affiliation: University of Tuebingen, Germany

MINE 2006 micro & nano - graph Contest

micro & nano - graph Title:

Let‘s Fly, Darling!

Description:
Silicon blocks are joined by 1μm aluminum layer. They should be anodically bonded to the pyrex substrate but one silicon block is released.



Magnification: 14x

Submitted by: Jon Ander Etxeberria

Instrument: Philips XL30CP

Affiliation: CEIT, Microelectronics Unit, San Sebastian (SPAIN)

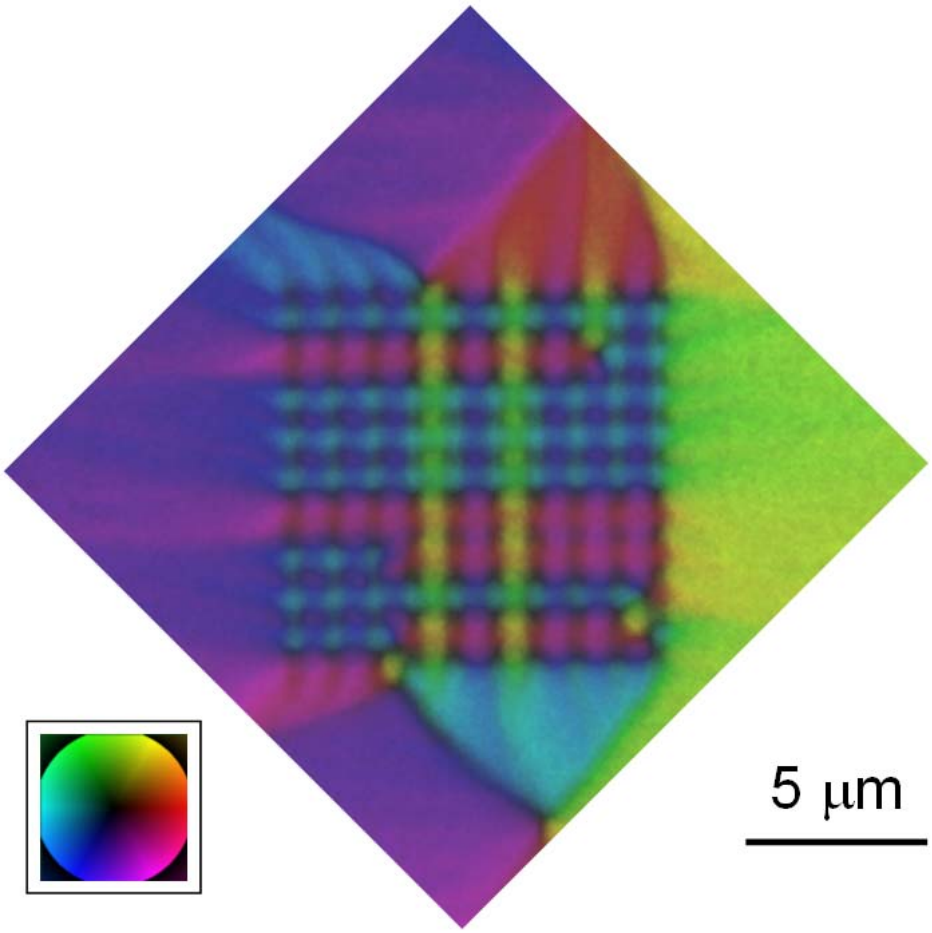
micro & nano - graph Contest

micro & nano - graph Title:

Carpet of Magnetic Colours

Description:

A state-of-the-art x-ray microscopy technique reveals the magnetic spin orientations in a cobalt thin film with a regular array of holes created by electron beam lithography. The intricate colour pattern is reminiscent of a modern carpet design.



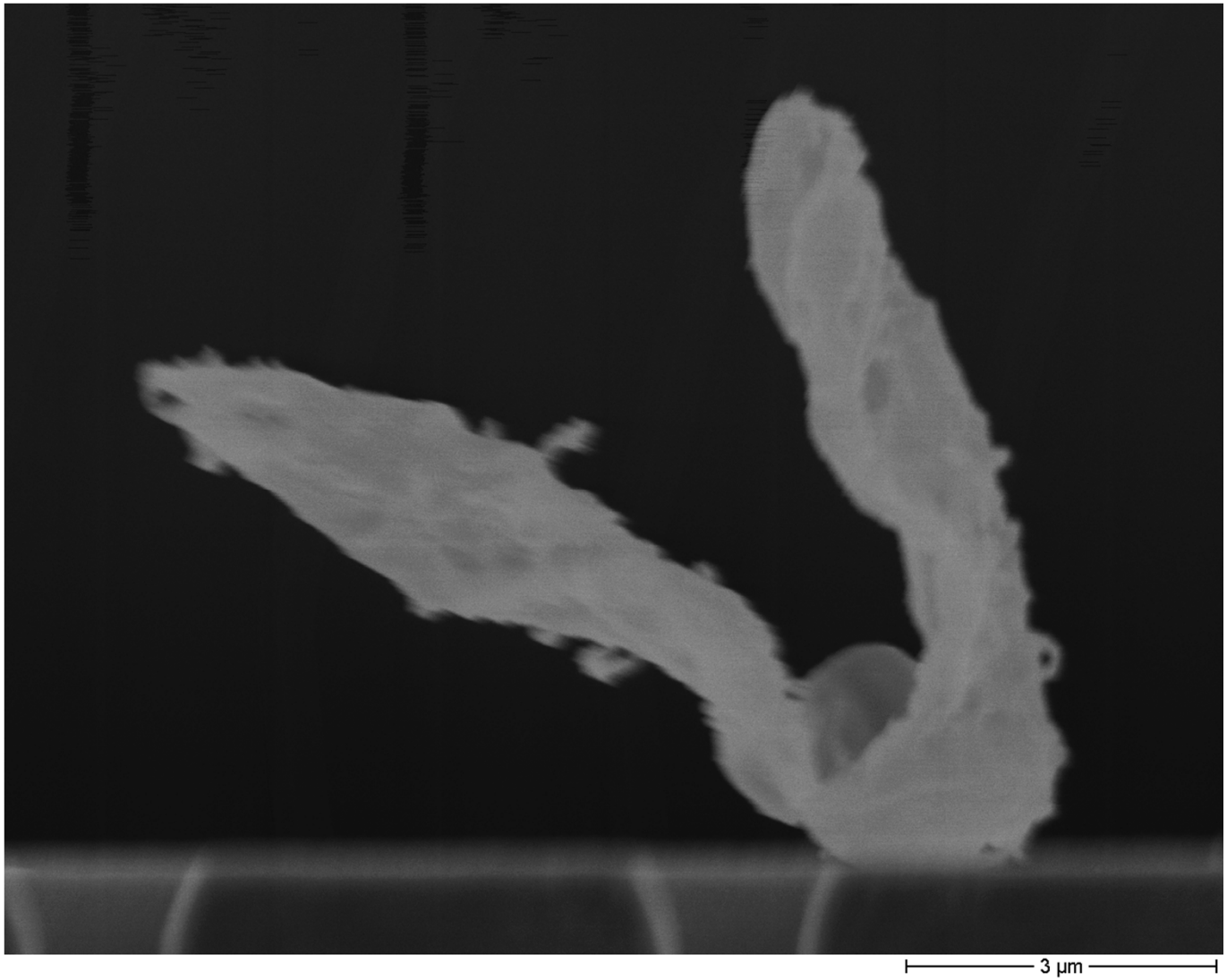
Magnification: See scale bar

Submitted by: Laura Heyderman

Instrument: X-ray Photoemission Electron Microscope at the SLS

Affiliation: Paul Scherrer Institut, Switzerland

micro & nano - graph Contest



micro & nano - graph Title:
hawk

Description:

Contamination on the macro porous silicon substrate.

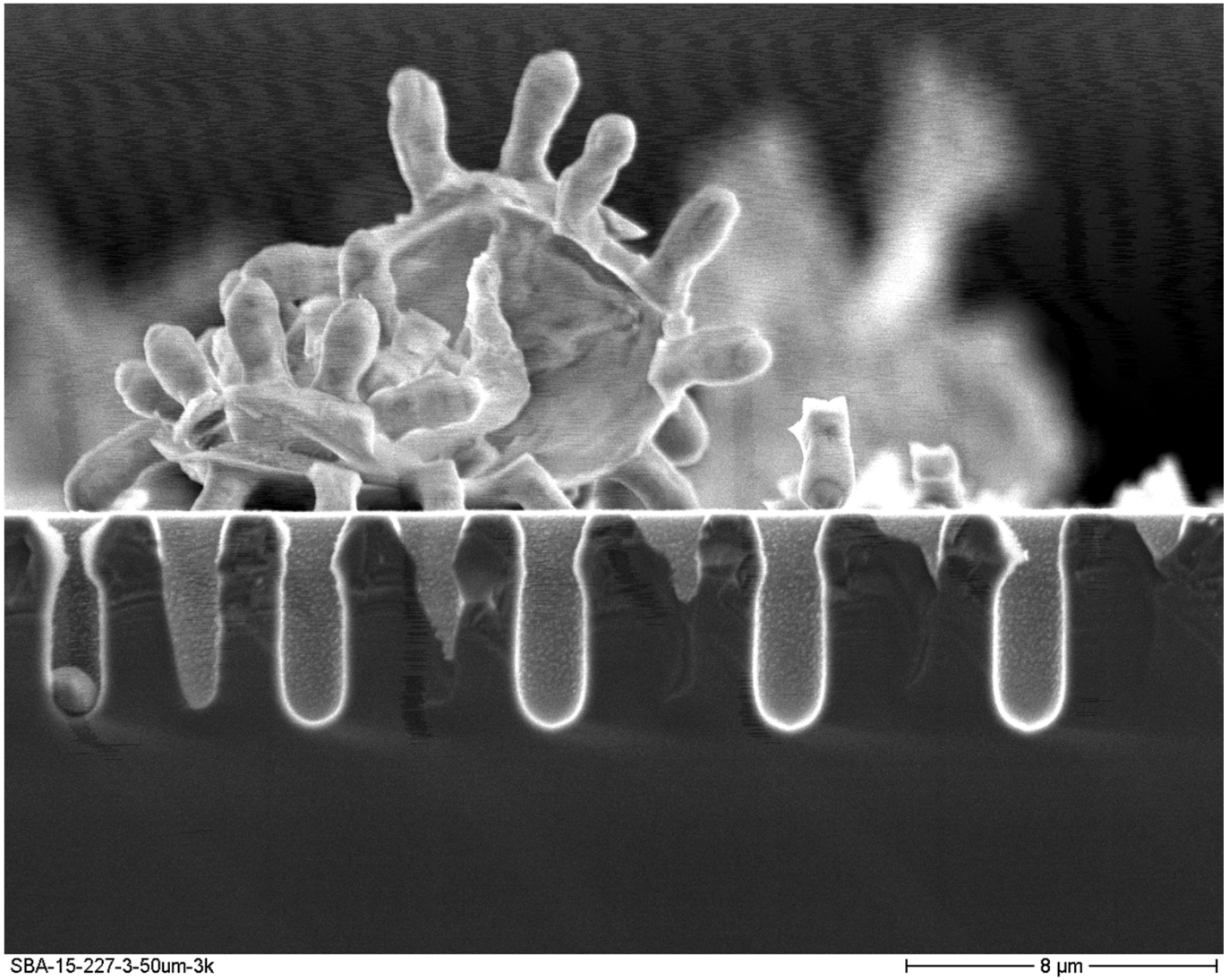
Magnification: scale on the picture

Instrument: JEOL JSM 6300

Submitted by: Ran Ji

Affiliation: Max-Planck-Institute of microstructure physics, Germany

micro & nano - graph Contest



micro & nano - graph Title:
Monster in the starcraft

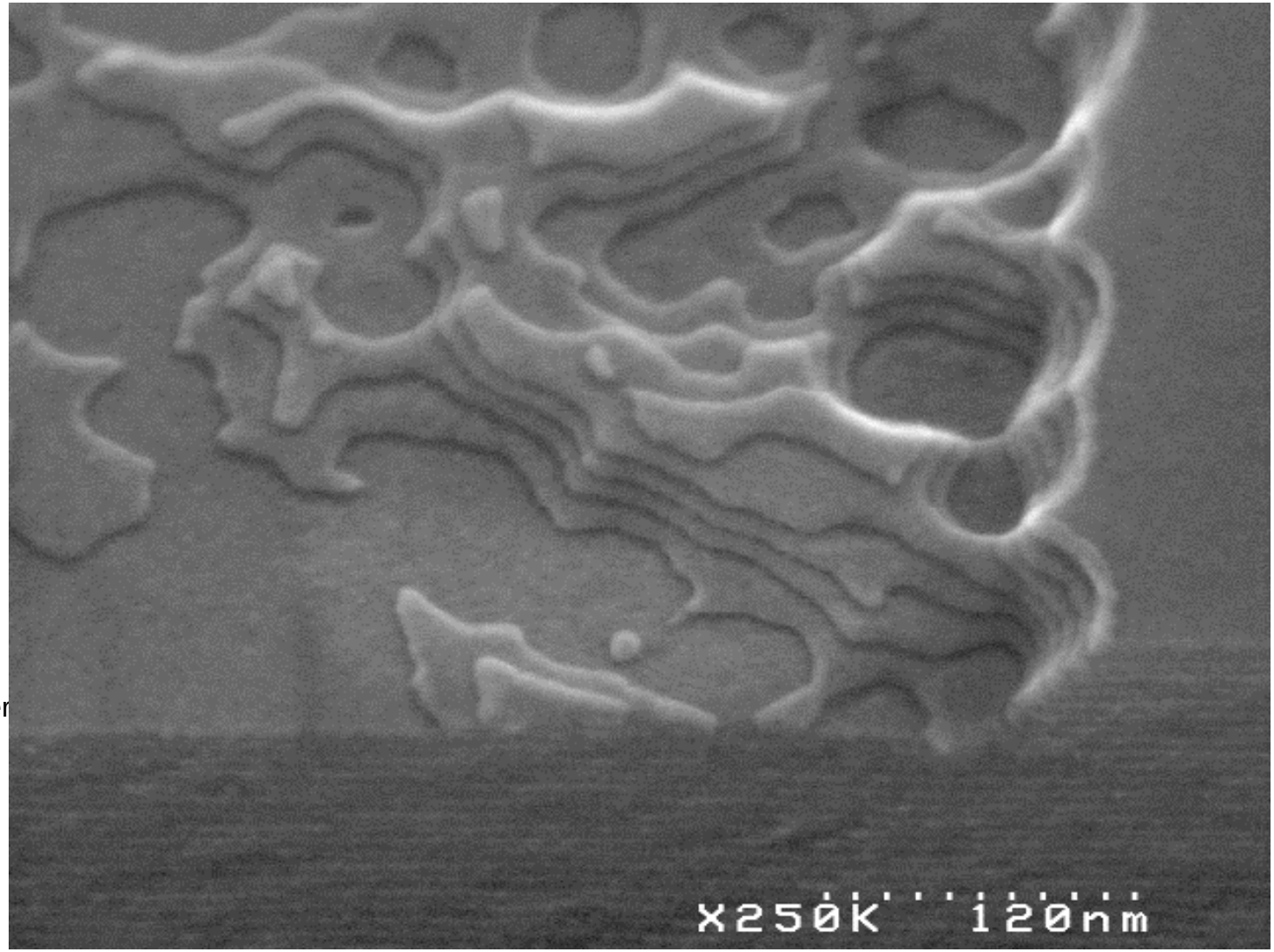
Description:

Contamination on the macro porous silicon substrate.

Magnification: scale on the picture **Instrument: JEOL JSM 6300**

Submitted by: Ran Ji **Affiliation: Max-Planck-Institute of microstructure physics, Germany**

micro & nano - graph Contest



micro & nano - graph Title:

Nano Canyon

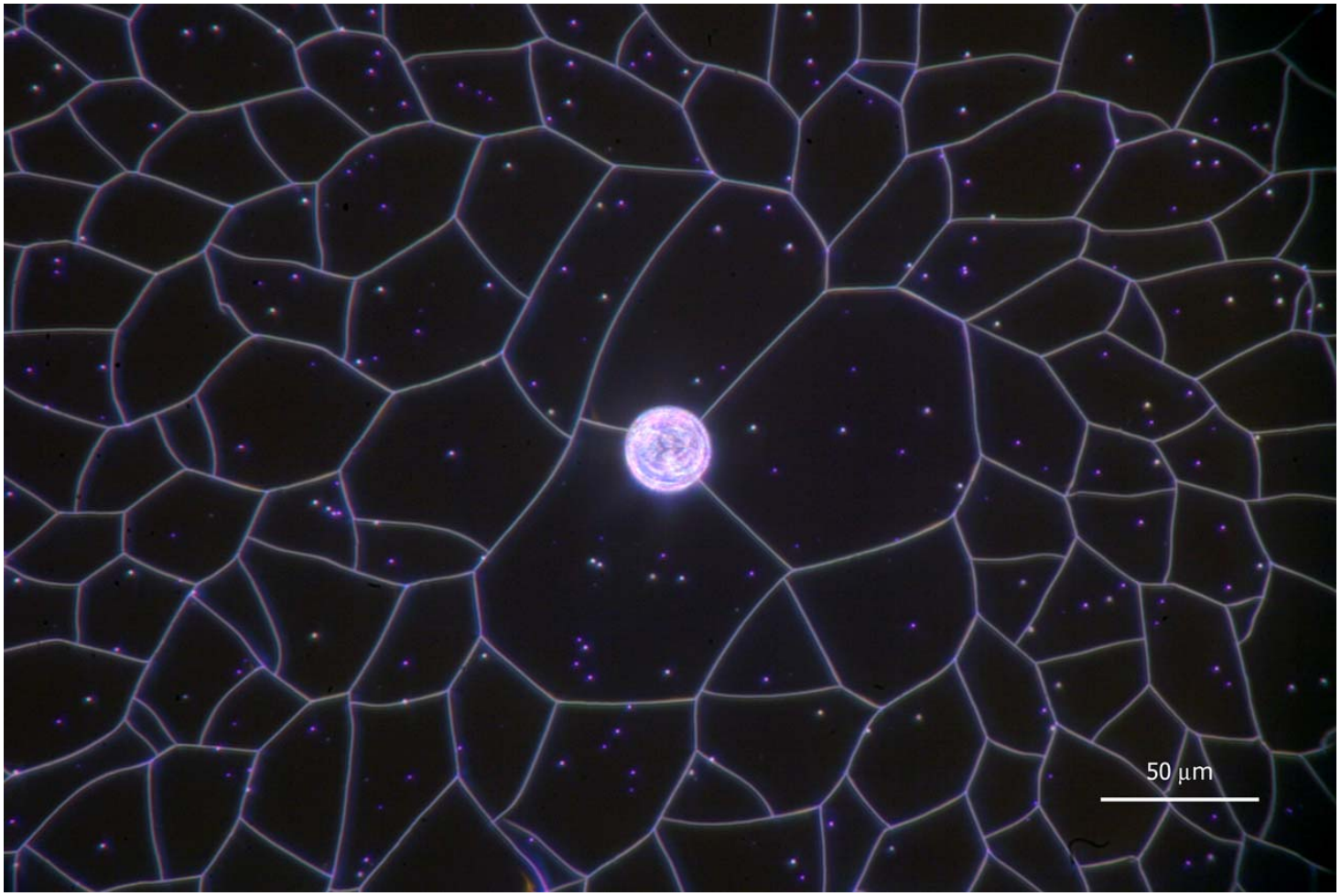
Description:

Plasma etching of 7 Mo(28Å)/Si(41Å) multilayer dedicated to Extreme UV mirrors.
The resist residues produce this Canyon like structure

Magnification: 250K X
Instrument: Hitashi S5000 Scanning Electron Microscope

Submitted by: Richard Marieke
Christophe Constancias
Affiliation: CEA-LETI Grenoble France

MNE 2006 micro & nano - graph Contest



micro & nano - graph Title:

Earth caught in a Spiderweb

Description:

A high stress nitride film crazes after laser spot crystallization of a silicon film below. Almost every vertex has no more or less than three lines emanating from it.

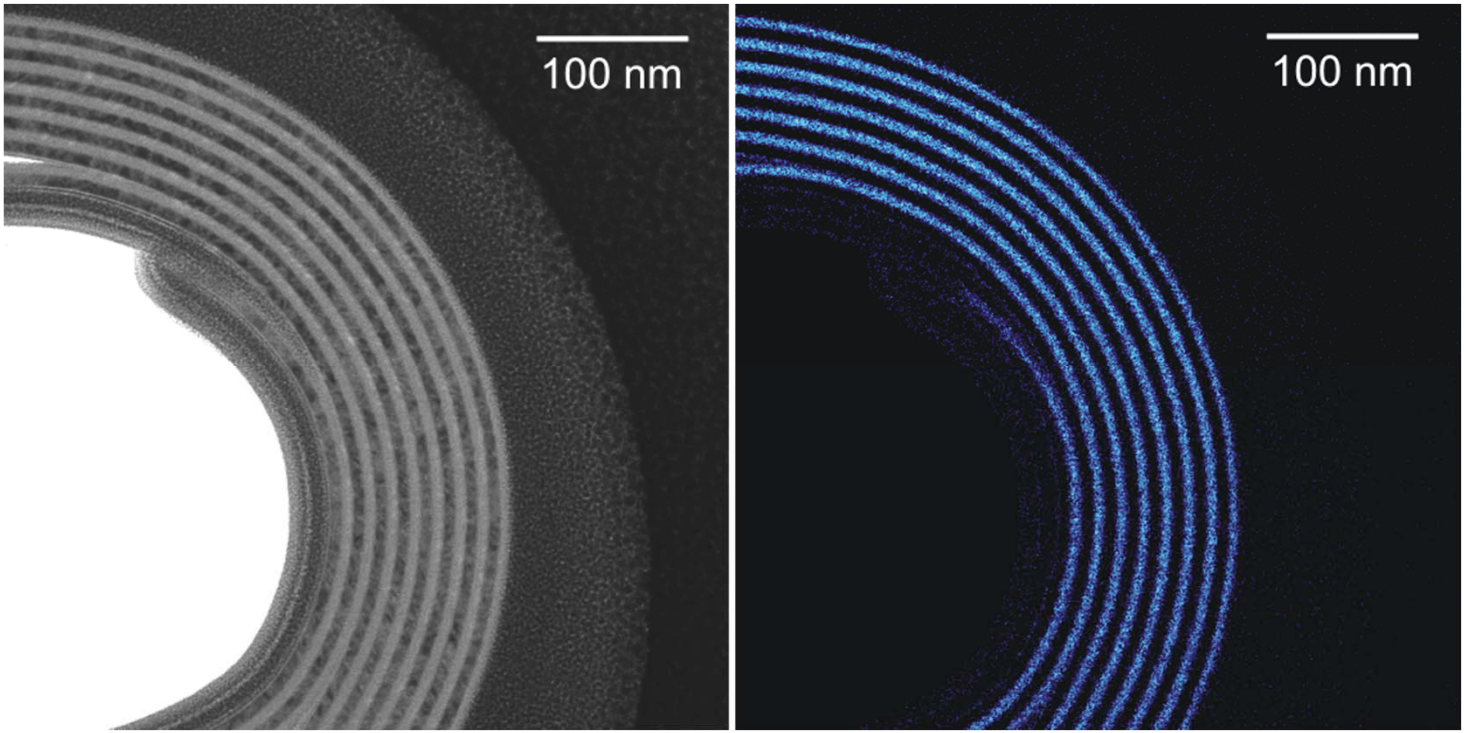
Magnification: 300X

Submitted by: Daniel Witte

Instrument: In-situ microscope with Mitutoyo 50x objective

Affiliation: Stanford University, Stanford, California USA

micro & nano - graph Contest



micro & nano - graph Title:

SiO_x/Si Radial superlattice

Description:

TEM (left) and energy filtered TEM (right) of *a*-SiO_x/*c*-Si *radial superlattice*s created by multiple rotations of SiO_x/Si layers. The right image shows in blue the area which contains oxygen corresponding to the SiO_x regions in the tube walls.

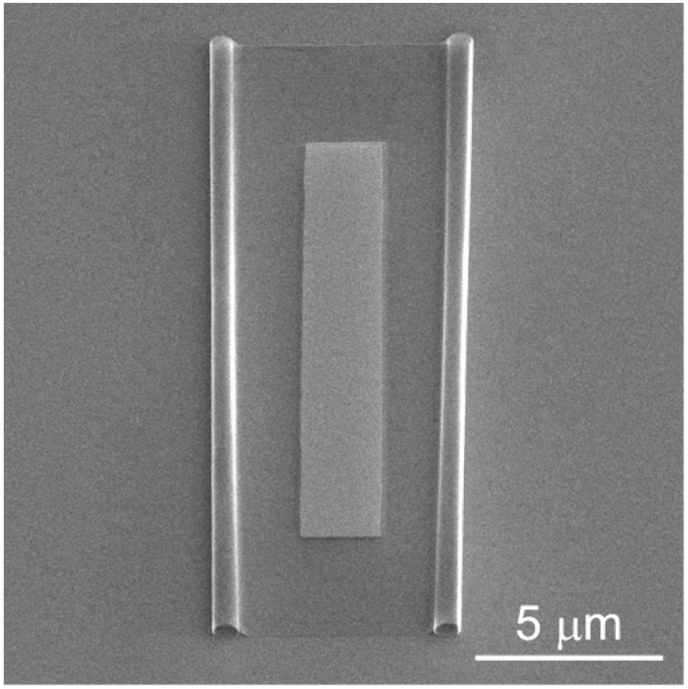
Instrument: TEM and energy filtered TEM from LIBRA120, Zeiss company, Oberkochen, Germany

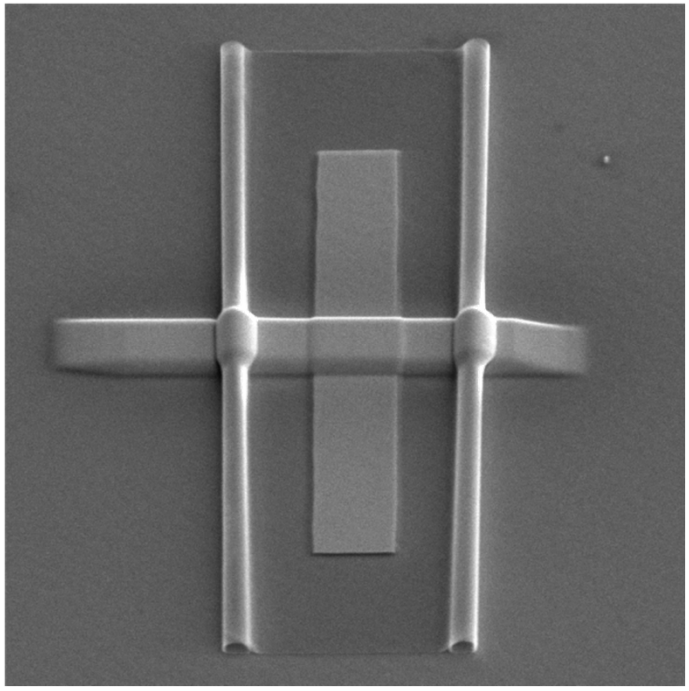
Magnification: Scale on the picture

Affiliation: Max-Planck Institut für Festkörperforschung, Stuttgart, Germany

Submitted by: Rudeesun Songmuang

micro & nano - graph Contest





micro & nano - graph Title:

Twin tubes

Description:
Tubes are created by releasing SiGe/Si strained bilayers from Si substrate. The lateral positioning of the tubes is made by lithography and reactive ion etching process (left). For cross-sectional TEM sample preparation, the area of interest is covered by a few hundred nanometers of Pt (right).

Instrument: FEI Nova 600 Nanolab, FEI Company, Eindhoven, the Netherlands

Magnification: Scale on the picture

Affiliation: Max-Planck Institut für Festkörperforschung, Stuttgart, Germany

Submitted by: Rudeesun Songmuang

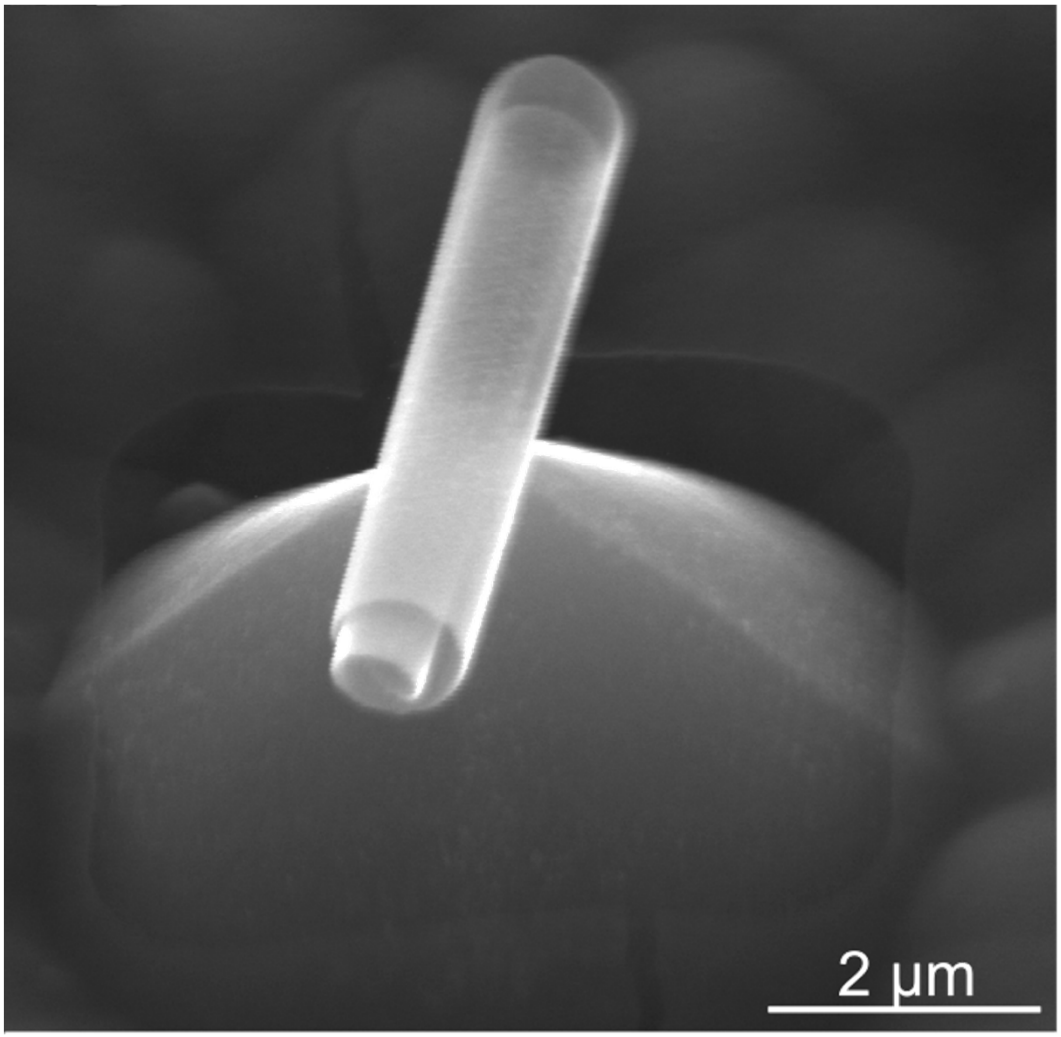
micro & nano - graph Contest

micro & nano - graph Title:

Single tube

Description:

Single tube is created by releasing a SiGe/Si strained bilayer from Si substrate. The lateral positioning of the structure is made by lithography and reactive ion etching process



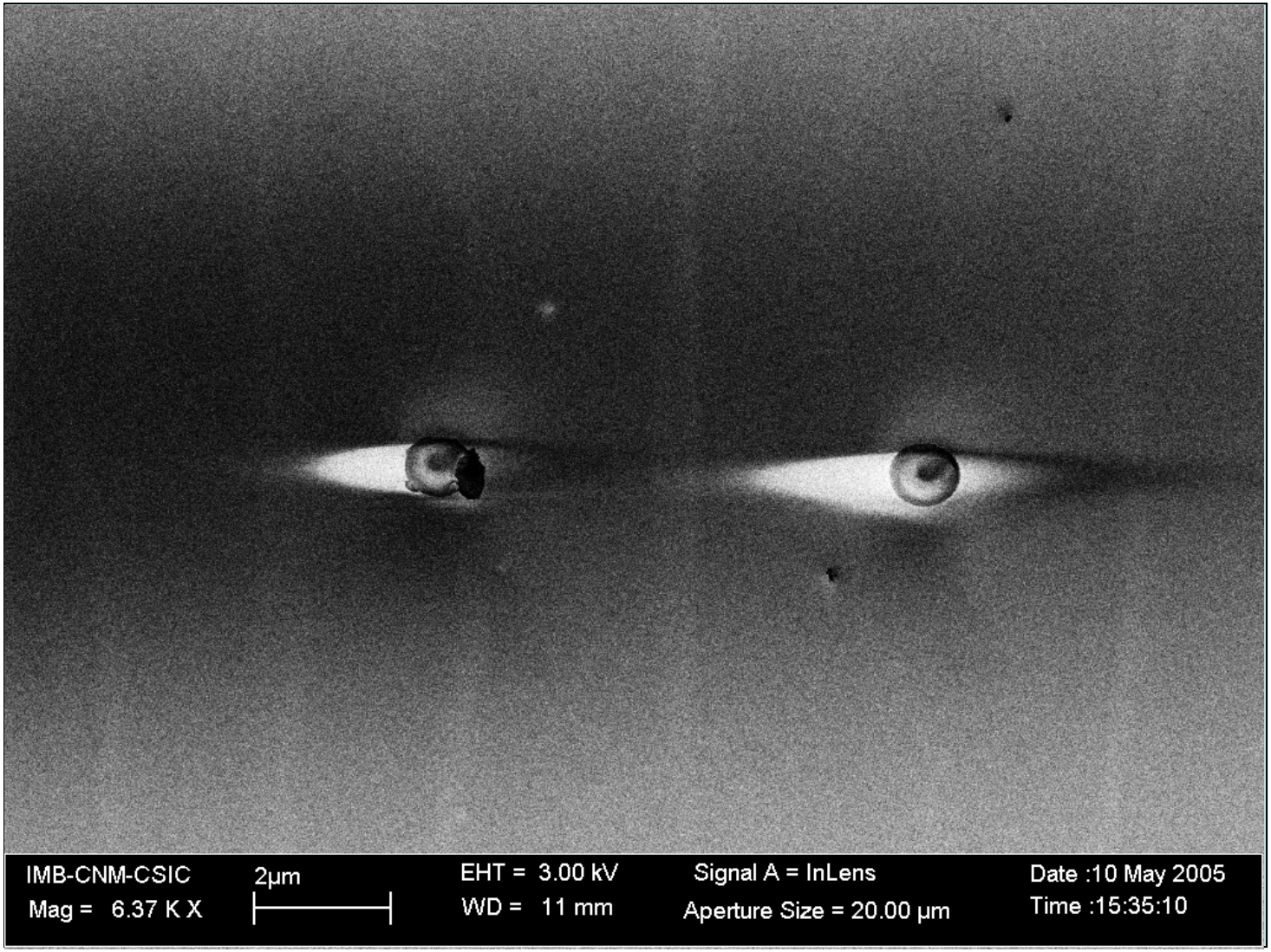
Magnification: Scale on the picture
Instrument: SEM Model S-800 Hitachi

Submitted by: Rudeesun Songmuang
Affiliation: Max-Planck Institut für Festkörperforschung, Stuttgart, Germany

micro & nano - graph Contest

micro & nano - graph Title:
Who is looking at who?

Description:
1micron latex beads onto Silicon-100 Surface



Magnification: 6.37k X
Submitted by: Jordi Teva

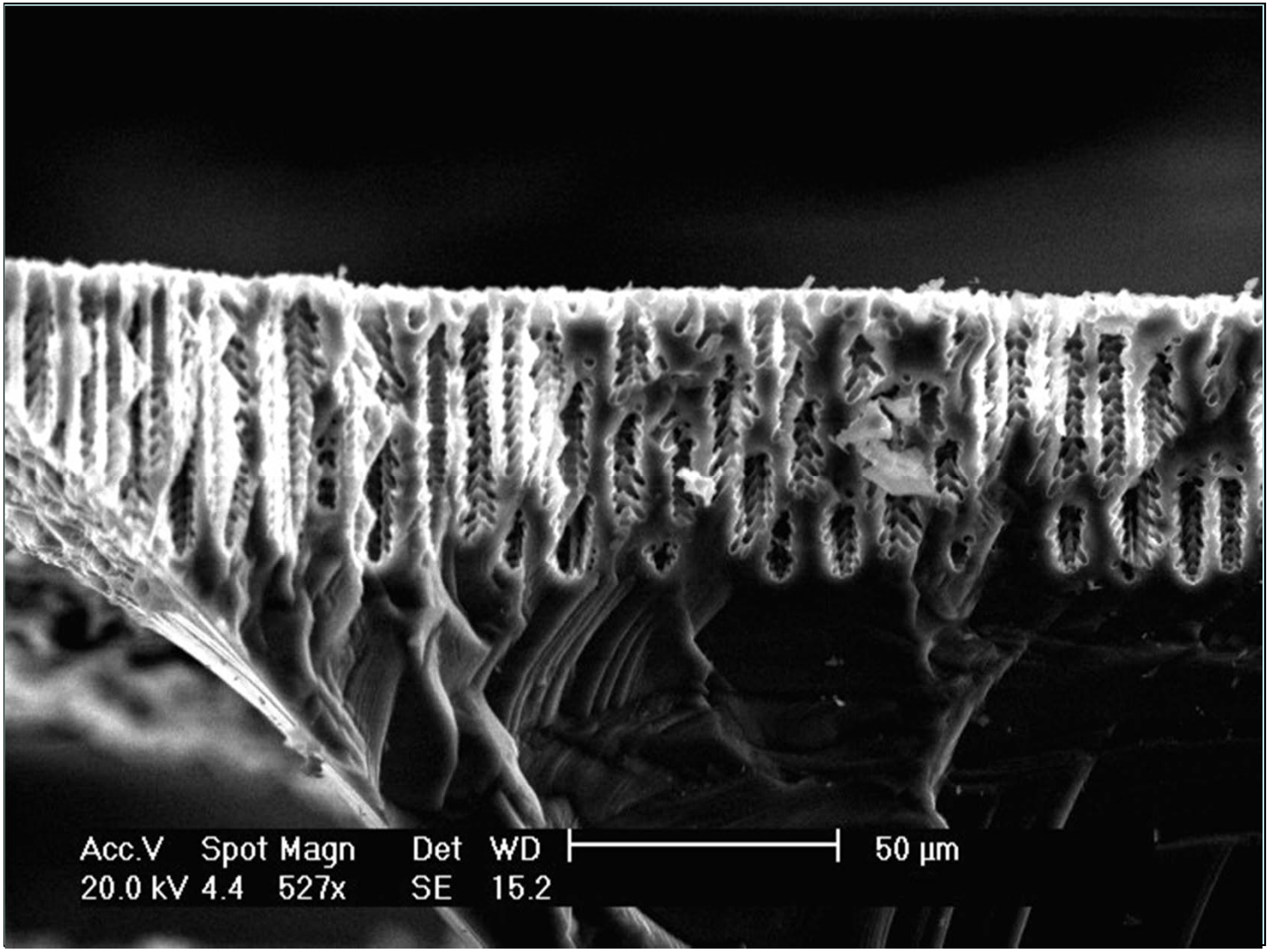
Instrument: LEO 32
Affiliation: Mr.

MINE 2006 micro & nano - graph Contest

micro & nano - graph Title:

Cliff or Cave?

Description:
The edge of a crack in an anodized N-type silicon wafer which contains macropores.



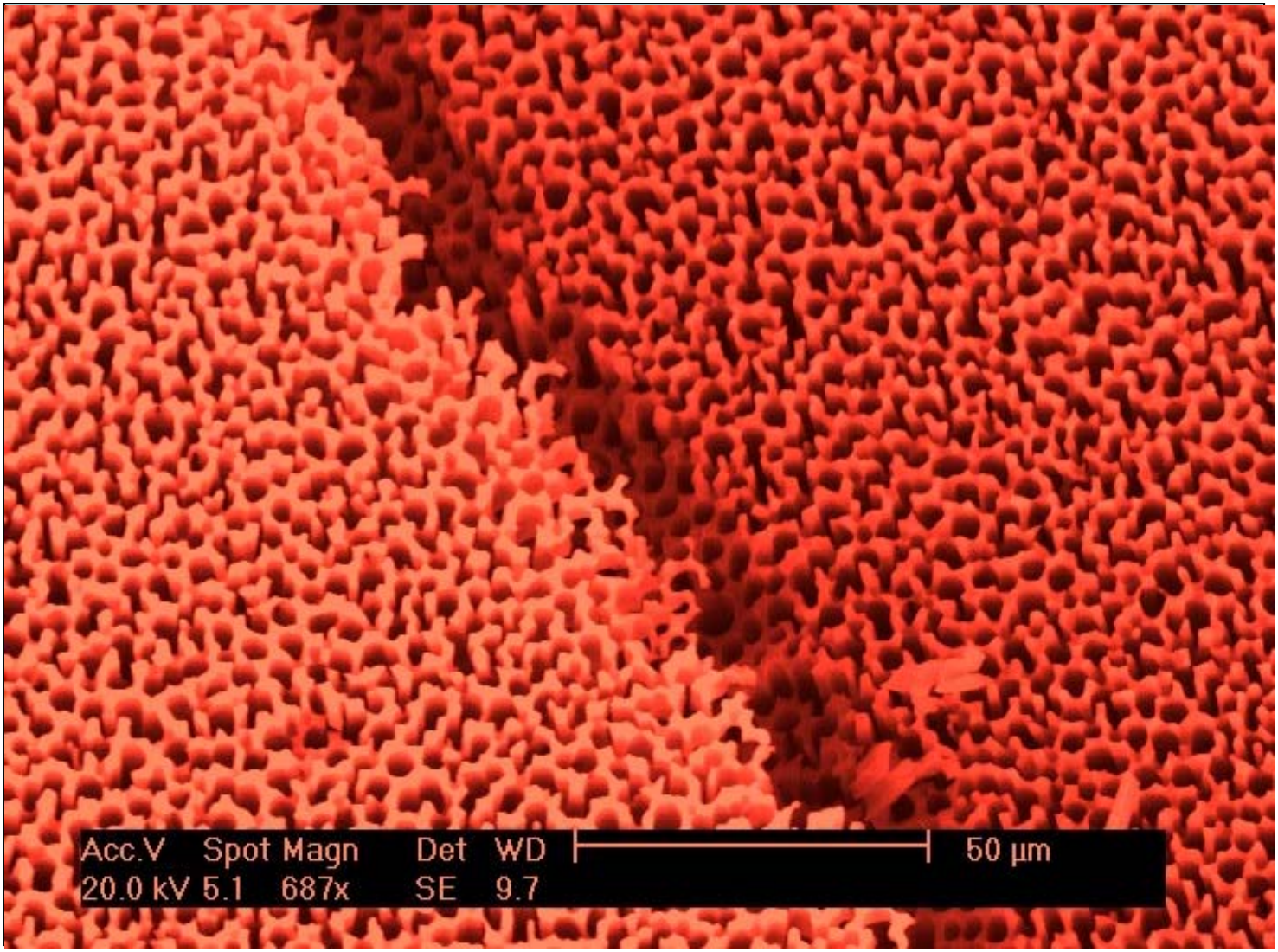
Magnification: Scale on the picture
Instrument: Philips XL30cp, SEM
Submitted by: Ana Sancho
Affiliation: CEIT, Microsystems Unit (Spain)

micro & nano - graph Contest

micro & nano - graph Title:

Coral Reef

Description:
The surface of an anodized P-type silicon wafer. The top of the macropores is broken along the crack.



Magnification: Scale on the picture

Instrument: Philips XL30cp, SEM

Submitted by: Ana Sancho

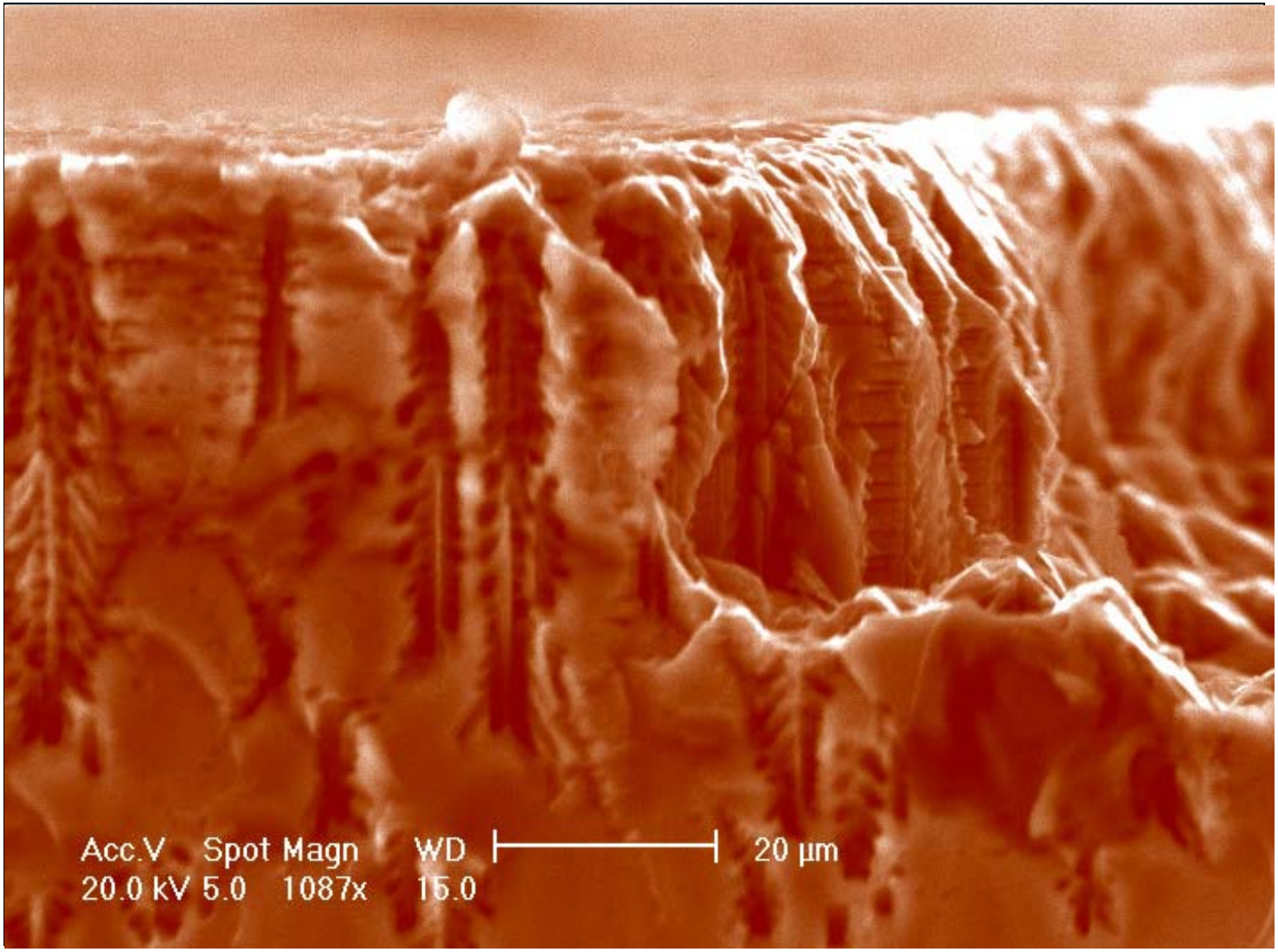
Affiliation: CEIT, Microsystems Unit (Spain)

micro & nano - graph Contest

micro & nano - graph Title:

Sunset on Pepito Moreno

Description:
Macropores in N-type silicon, broken on the top of the wafer.



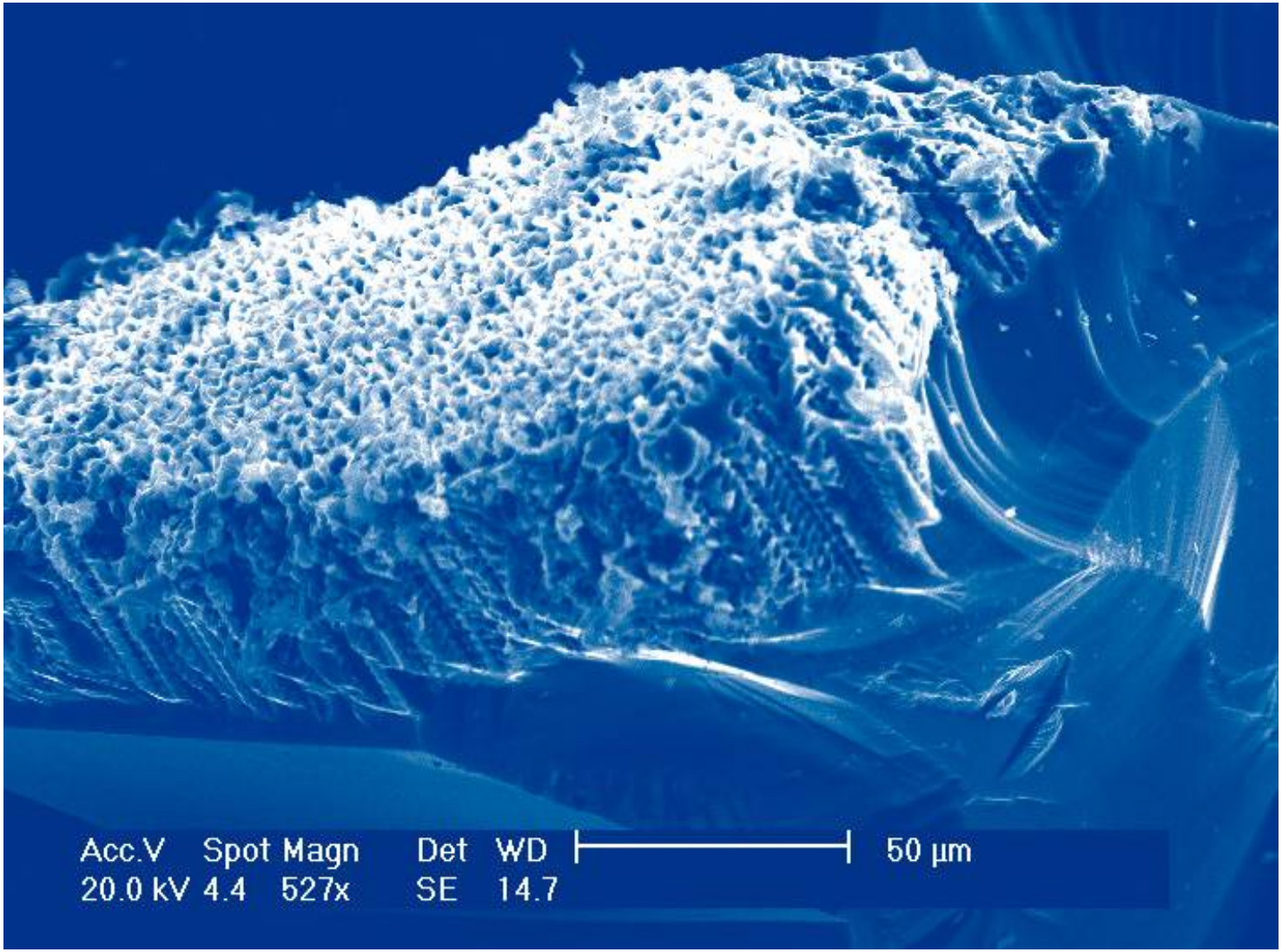
Magnification: Scale on the picture
Instrument: Philips XL30cp, SEM
Submitted by: Ana Sancho
Affiliation: CEIT, Microsystems Unit (Spain)

micro & nano - graph Contest

micro & nano - graph Title:

Hawaiian Wave

Description:
A broken piece of an N-type silicon wafer containing macropores.



Magnification: Scale on the picture

Instrument: Philips XL30cp, SEM

Submitted by: Ana Sancho

Affiliation: CEIT, Microsystems Unit (Spain)

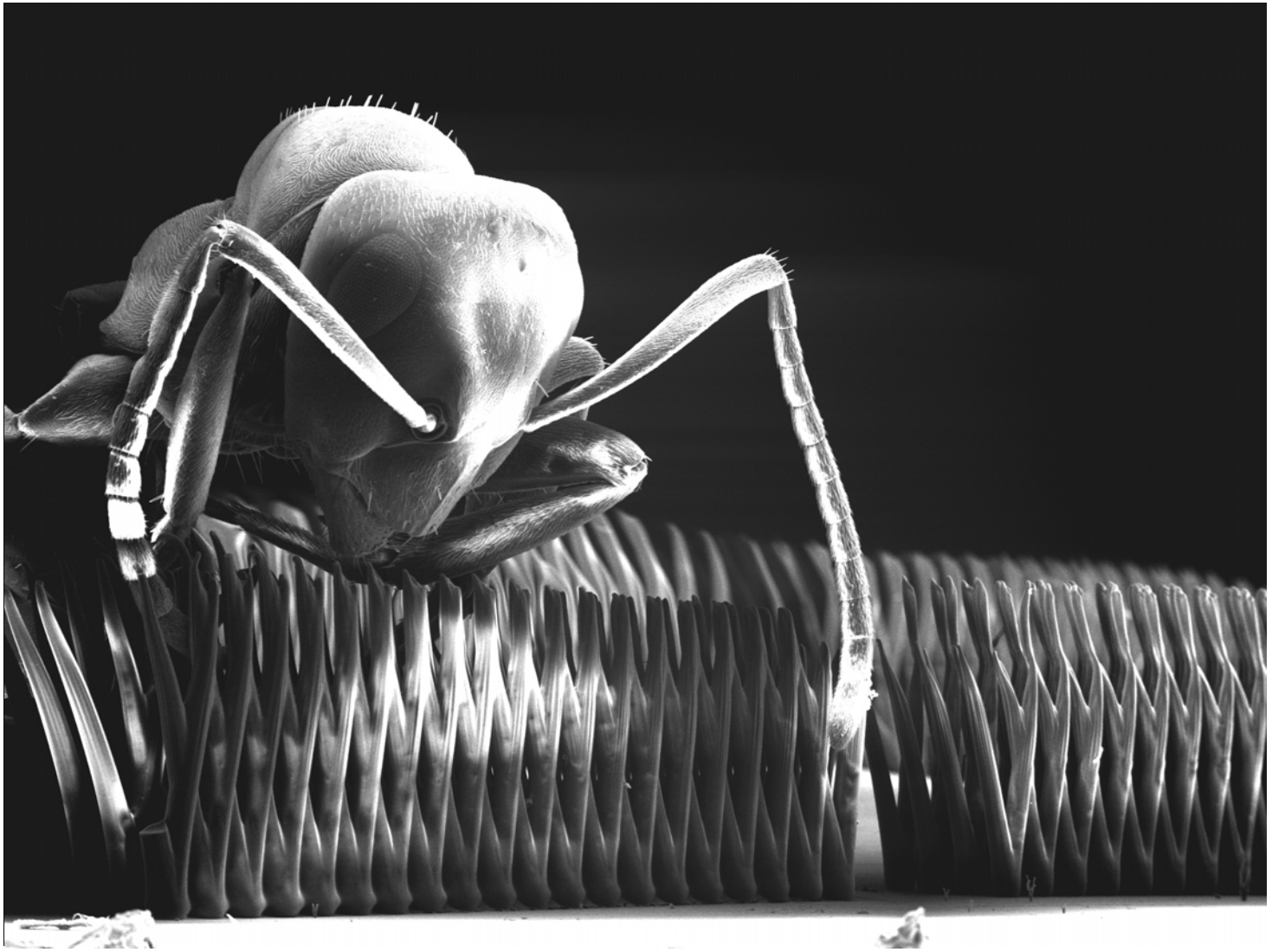
micro & nano - graph Contest

micro & nano - graph Title:

Ant filter

Description:

Ant examining the structural integrity of a gold/su8 filter structure



Magnification: x19

Submitted by: Mark Rosamond

Instrument: Hitachi S-2400

Affiliation: Durham University, UK

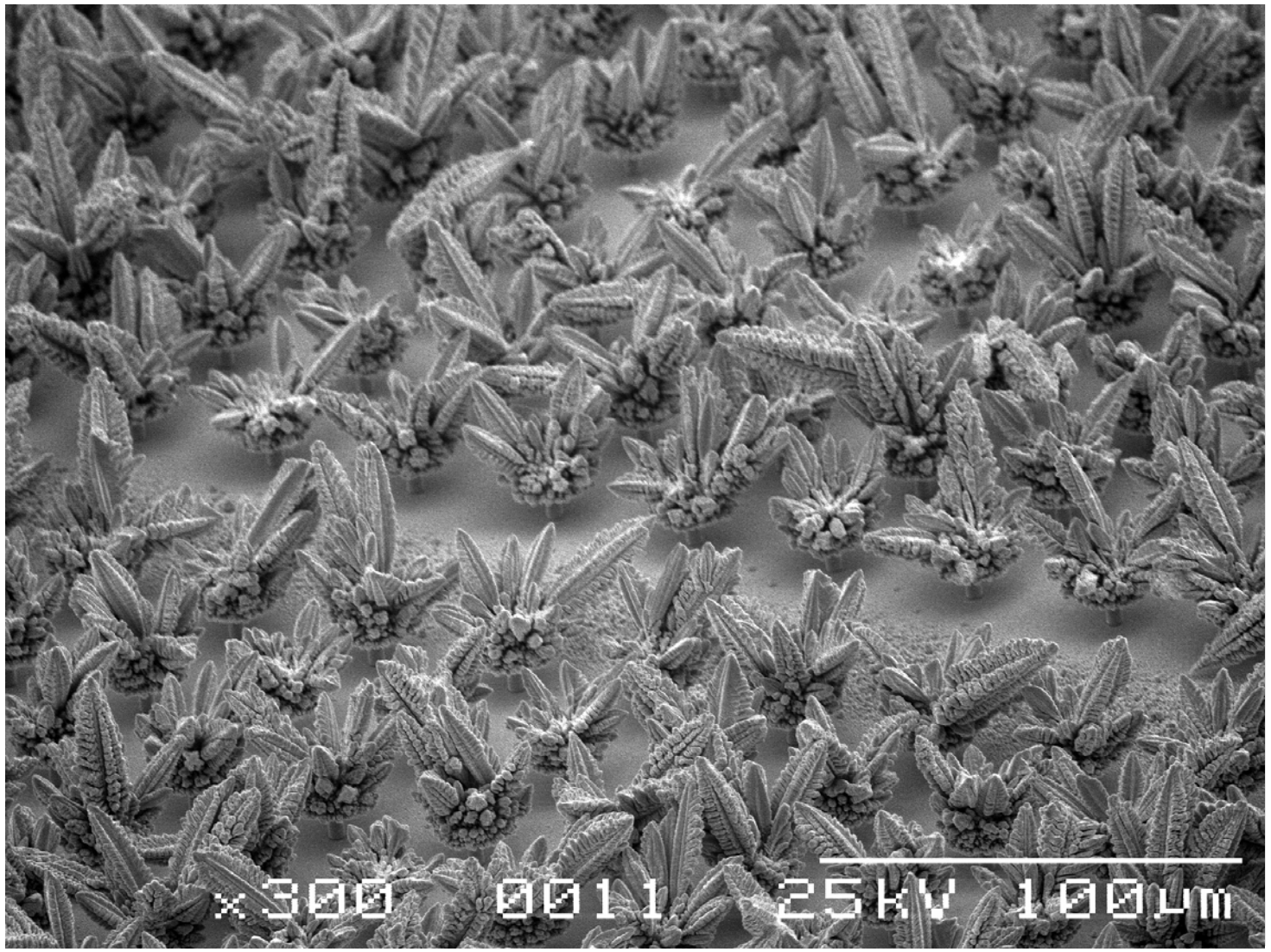
MINE 2006 micro & nano - graph Contest

micro & nano - graph Title:

Gold plantation

Description:

Gold was overplated through a thick resist mould to create mushroom structures. The resist was then removed and plating continued at a higher current density. Dendritic growth occurred leading to this “forest” formation



Magnification: x340

Submitted by: Mark Rosamond

Instrument: Hitachi S-2400

Affiliation: Durham University, UK

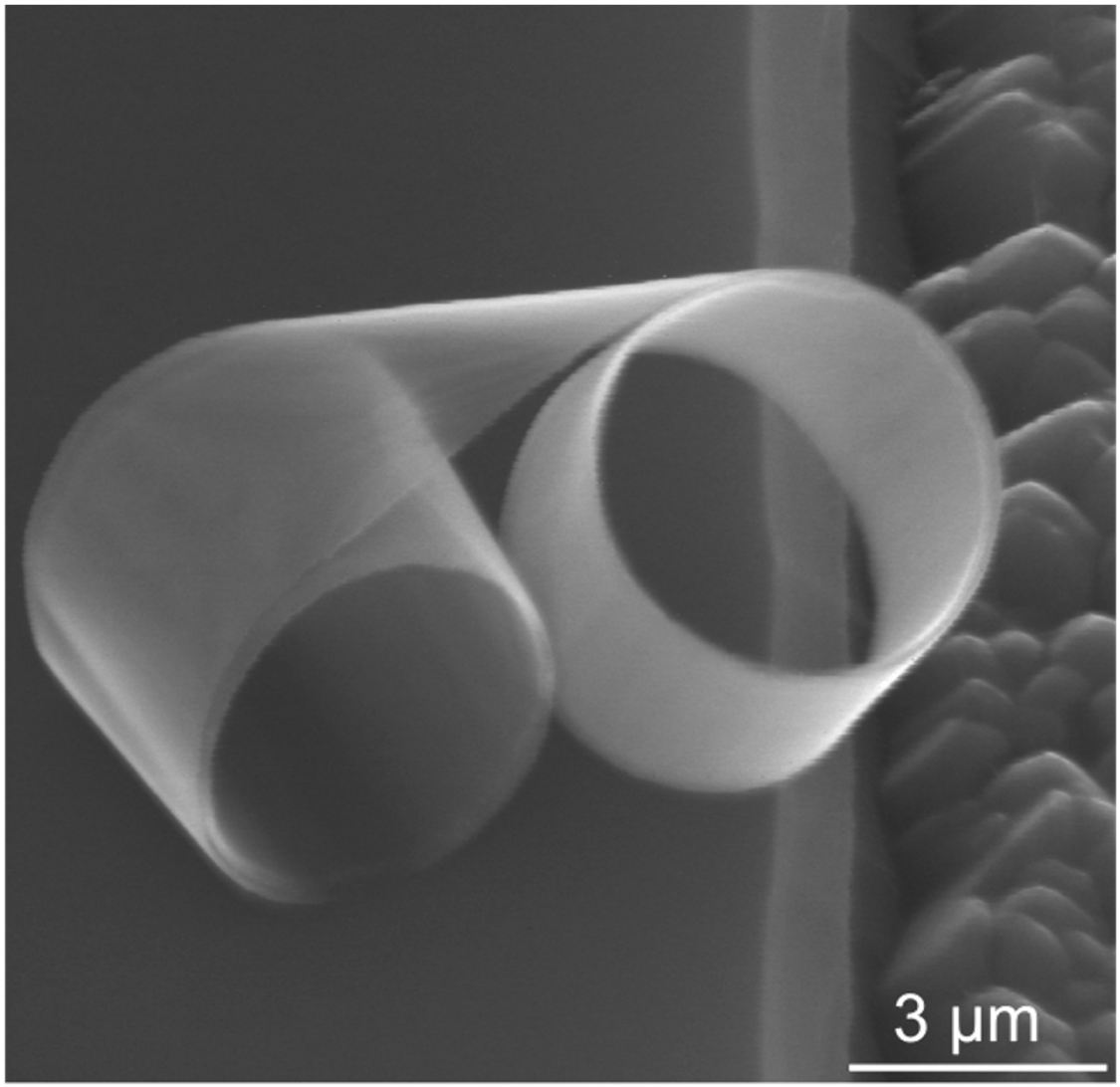
micro & nano - graph Contest

micro & nano - graph Title:

Twin micro-rings

Description:

Rolled-up SiGe/Si thin film after being released from Si substrate



Magnification: Scale on the picture **Instrument:** Hitachi S-800 SEM

Submitted by: Rudeesun Songmuang **Affiliation:** Max-Planck Institut für Festkörperforschung, Stuttgart, Germany

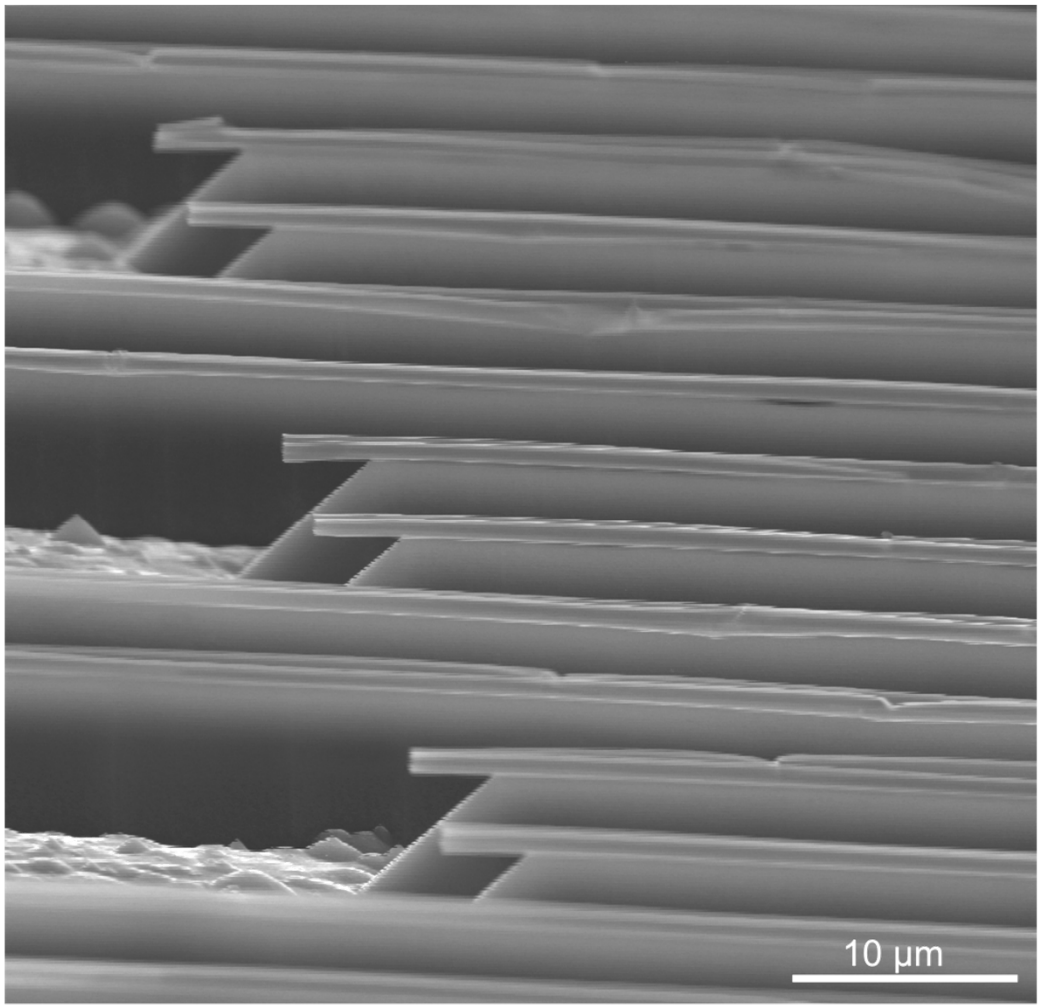
micro & nano - graph Contest

micro & nano - graph Title:

Parallel tubes

Description:

Tubes are created by releasing SiGe/Si strained bilayers from Si substrate. The lateral positioning of the rolled up tubes is made by lithography and reactive ion etching process. .



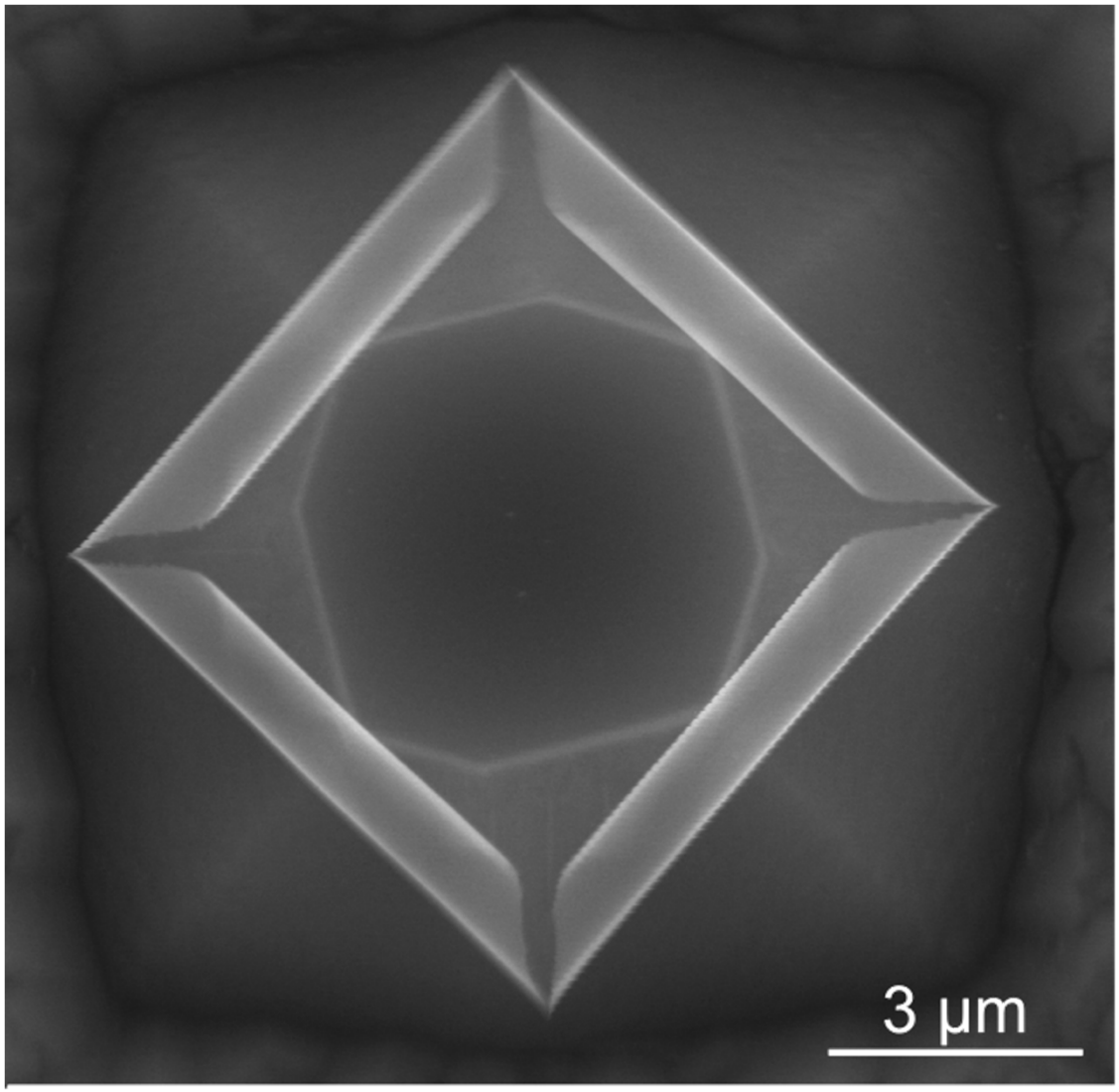
Magnification: Scale on the picture **Instrument:** Hitachi S-800 SEM

Submitted by: Rudeesun Songmuang **Affiliation:** Max-Planck Institut für Festkörperforschung, Stuttgart, Germany

micro & nano - graph Contest

micro & nano - graph Title:

Four microtubes forming a square



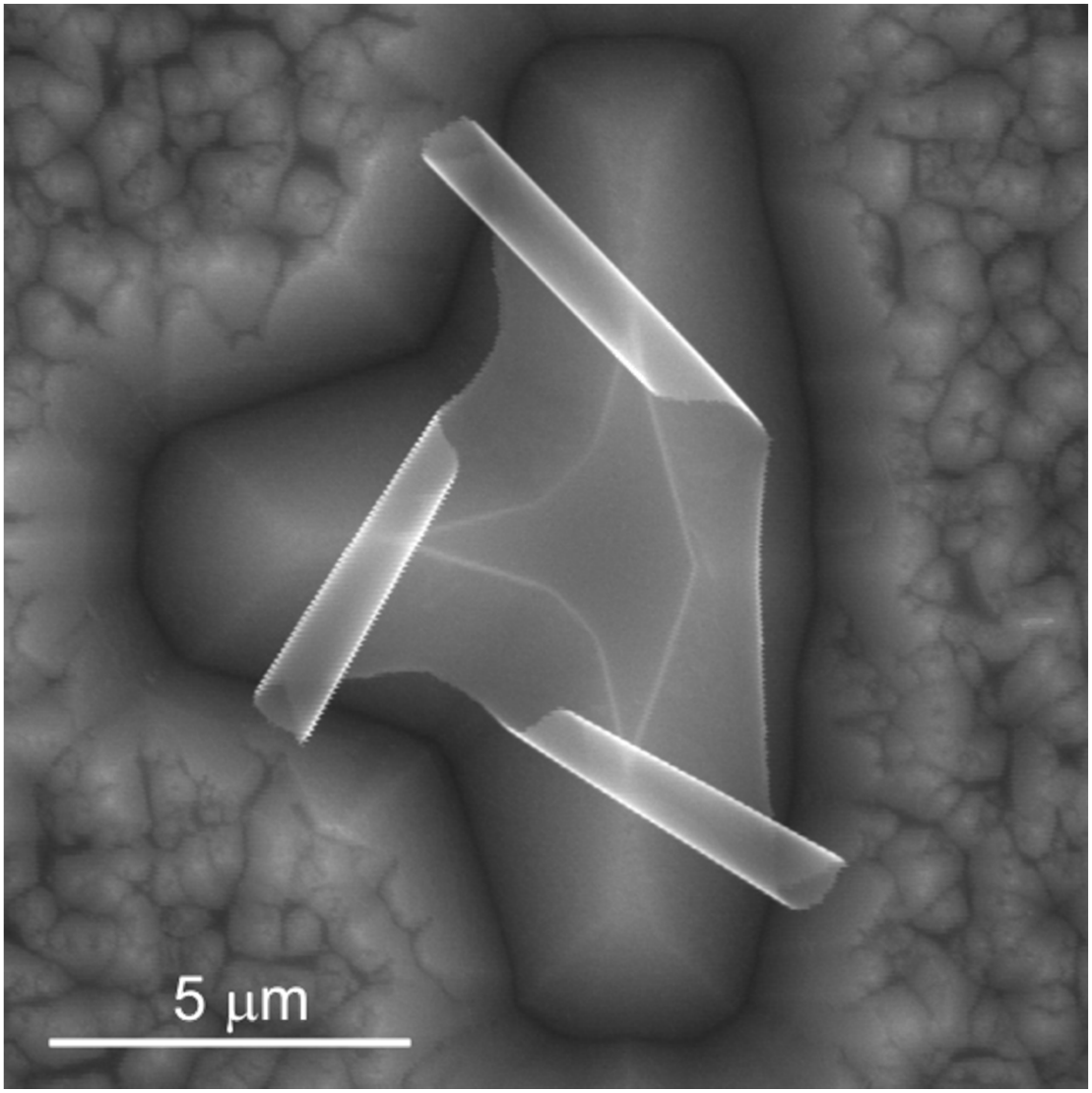
Description:

The structure is created by releasing SiGe/Si strained bilayer from Si substrate. The lateral positioning of the structure is made by lithography and reactive ion etching process.

Magnification: Scale on the picture **Instrument:** Hitachi S-800 SEM

Submitted by: Rudeesun Songmuang **Affiliation:** Max-Planck Institut für Festkörperforschung, Stuttgart, Germany

micro & nano - graph Contest



micro & nano - graph Title:

Micro Tubular

Description:
The structure is created by releasing SiGe/Si strained bilayer from Si substrate. Since the stripe pattern is aligned along the <110> direction, the bilayer preferentially rolls up along a direction approximately 45° tilted to the stripe orientation

Magnification: Scale on the picture
Instrument: SEM Model S-800 Hitachi

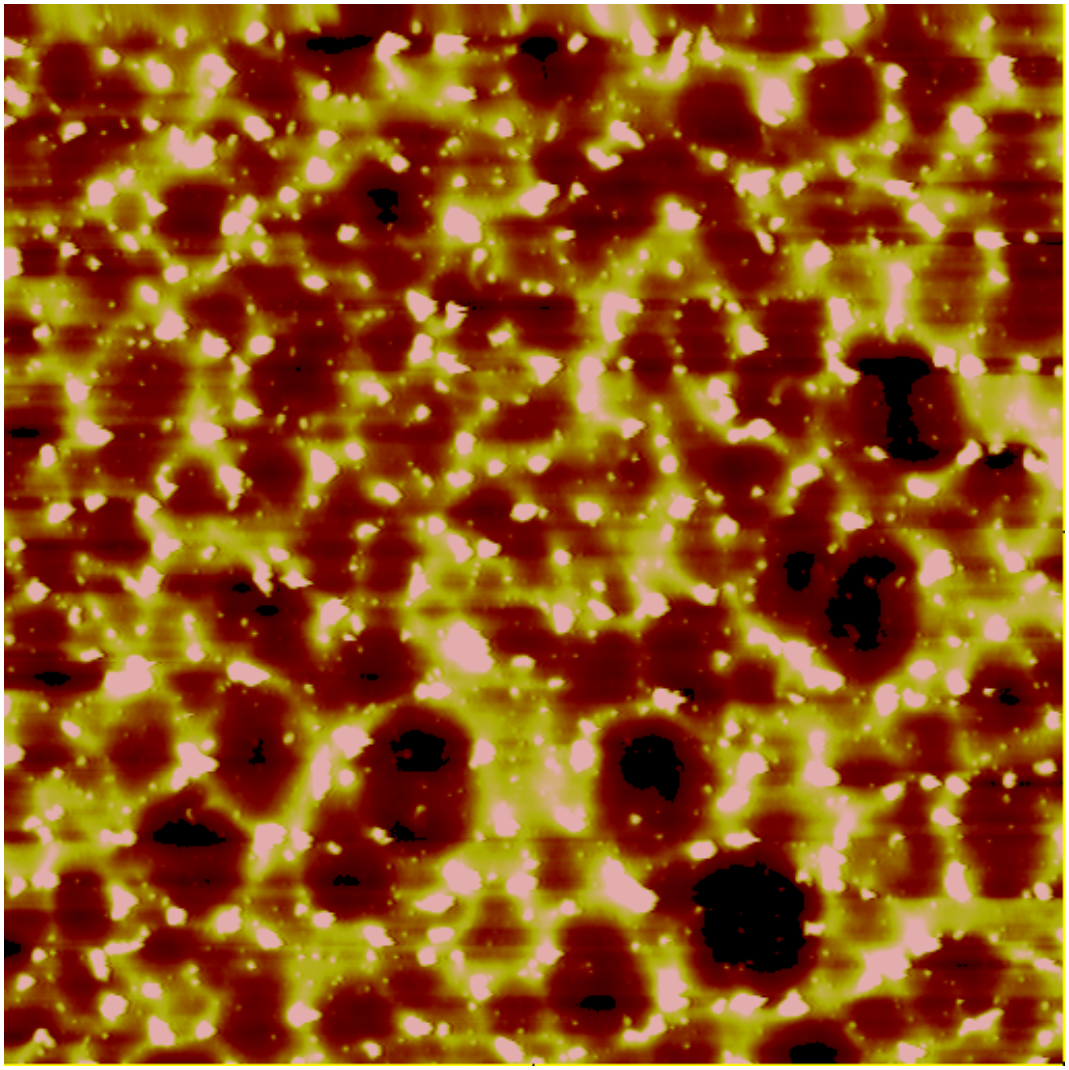
Submitted by: Rudeesun Songmuang
Affiliation: Max-Planck Institut für Festkörperforschung, Stuttgart, Germany

micro & nano - graph Contest

micro & nano - graph

Title: Starry night

Description:
SF_6 Plasma treatment
on silicon surface



Magnification: AFM scan (5x5 μm)

Instrument: Digital Instruments Atomic Force Microscopy

Submitted by: Boulousis Georgios

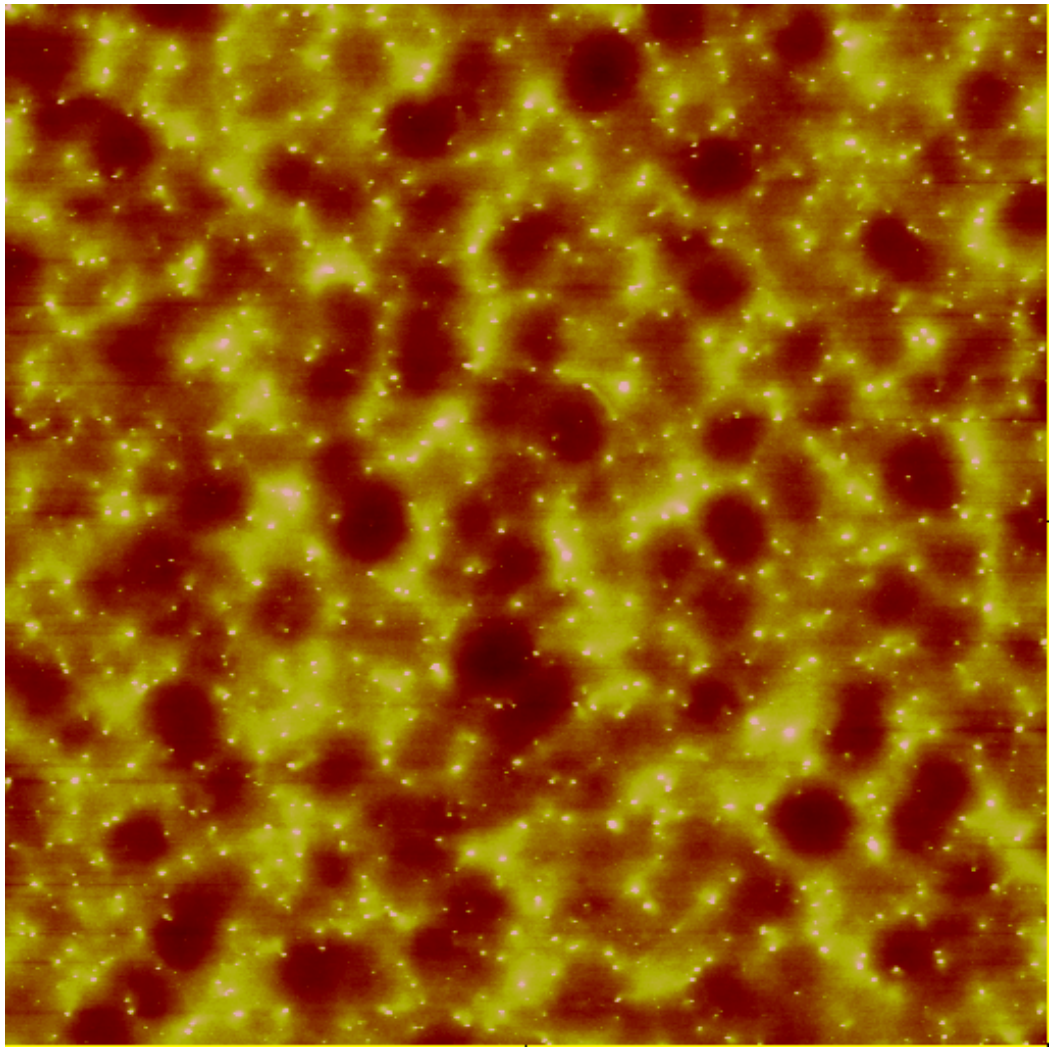
Affiliation: Institute of Microelectronics, NCSR Demokritos

micro & nano - graph Contest

micro & nano - graph

Title: Nano galaxy

Description:
SF_6 Plasma treatment on silicon surface



Magnification: AFM scan (5x5 μm)
Instrument: Digital Instruments Atomic Force Microscopy

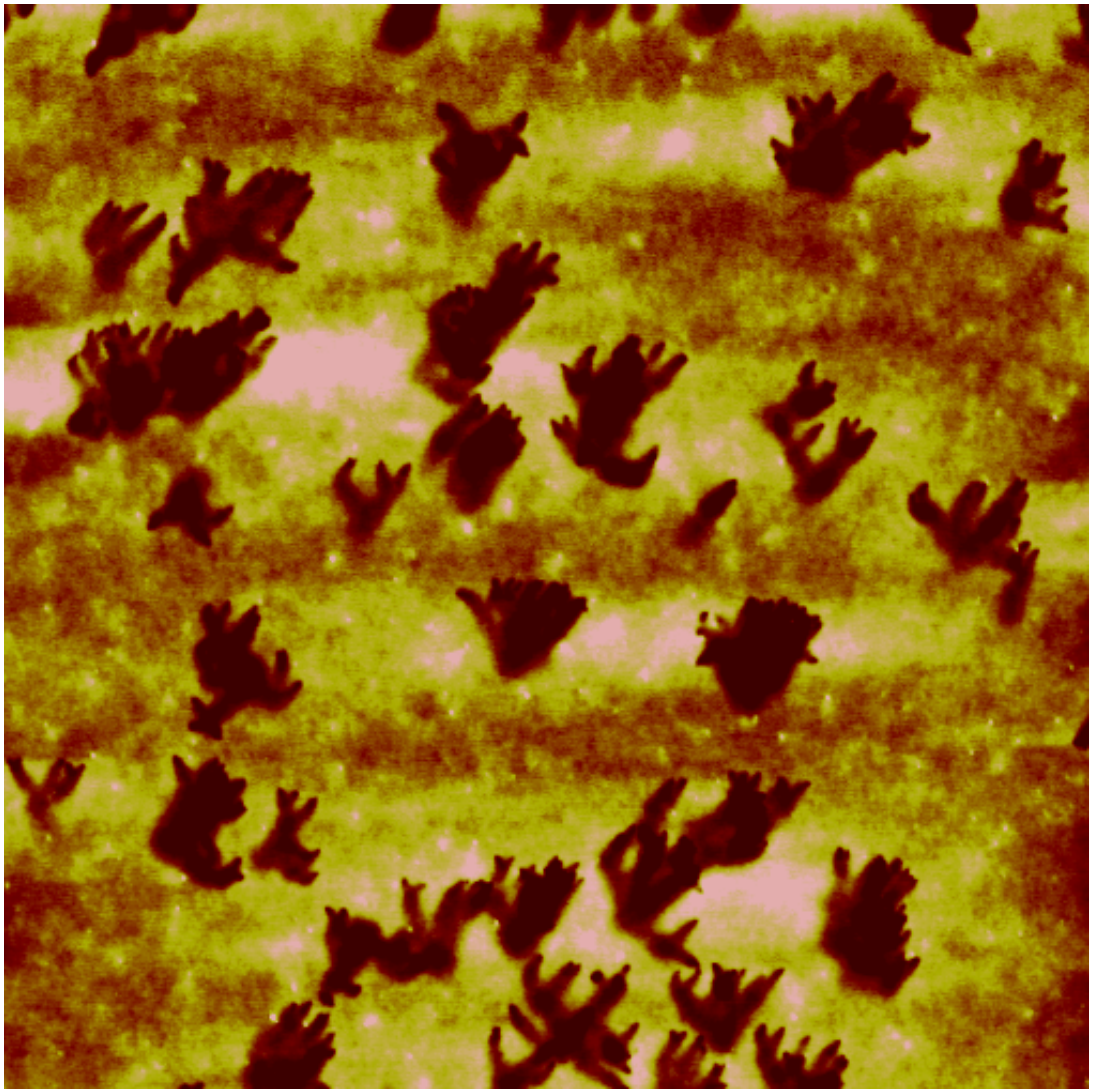
Submitted by: Boulousis Georgios
Affiliation: Institute of Microelectronics, NCSR Demokritos

micro & nano - graph Contest

micro & nano - graph

Title: Nano-sapiens wall painting

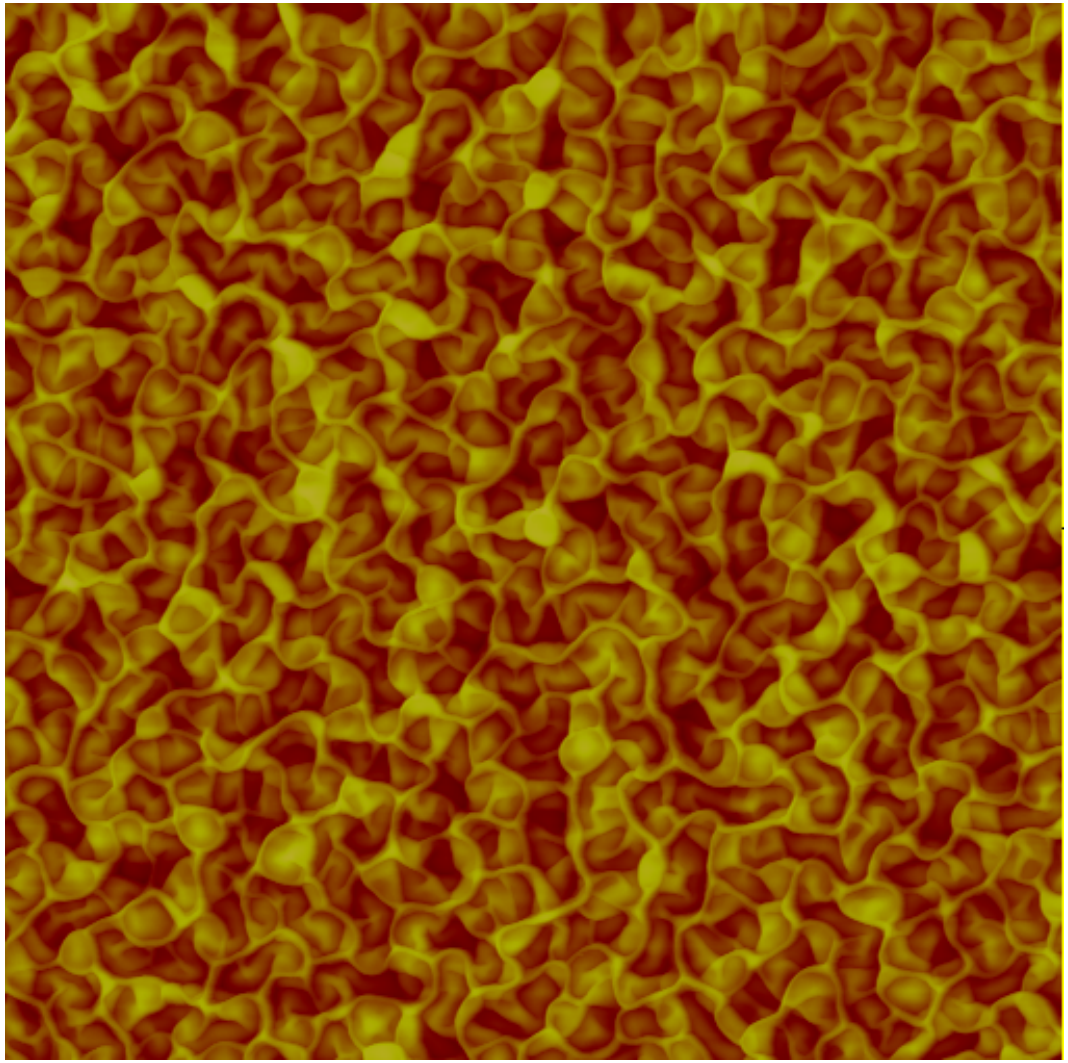
Description:
SF_6 Plasma treatment on silicon surface



Magnification: AFM scan (5x5 μm)
Instrument: Digital Instruments Atomic Force Microscopy

Submitted by: Boulousis Georgios
Affiliation: Institute of Microelectronics, NCSR Demokritos

micro & nano - graph Contest



micro & nano - graph

Title: Silicone ribbons

Description:
Oxygen plasma treatment on PDMS surface

Magnification: AFM scan (5x5 μm)
Submitted by: Tsougeni Katerina

Instrument: Digital Instruments Atomic Force Microscopy
Affiliation: Institute of Microelectronics, NCSR Demokritos

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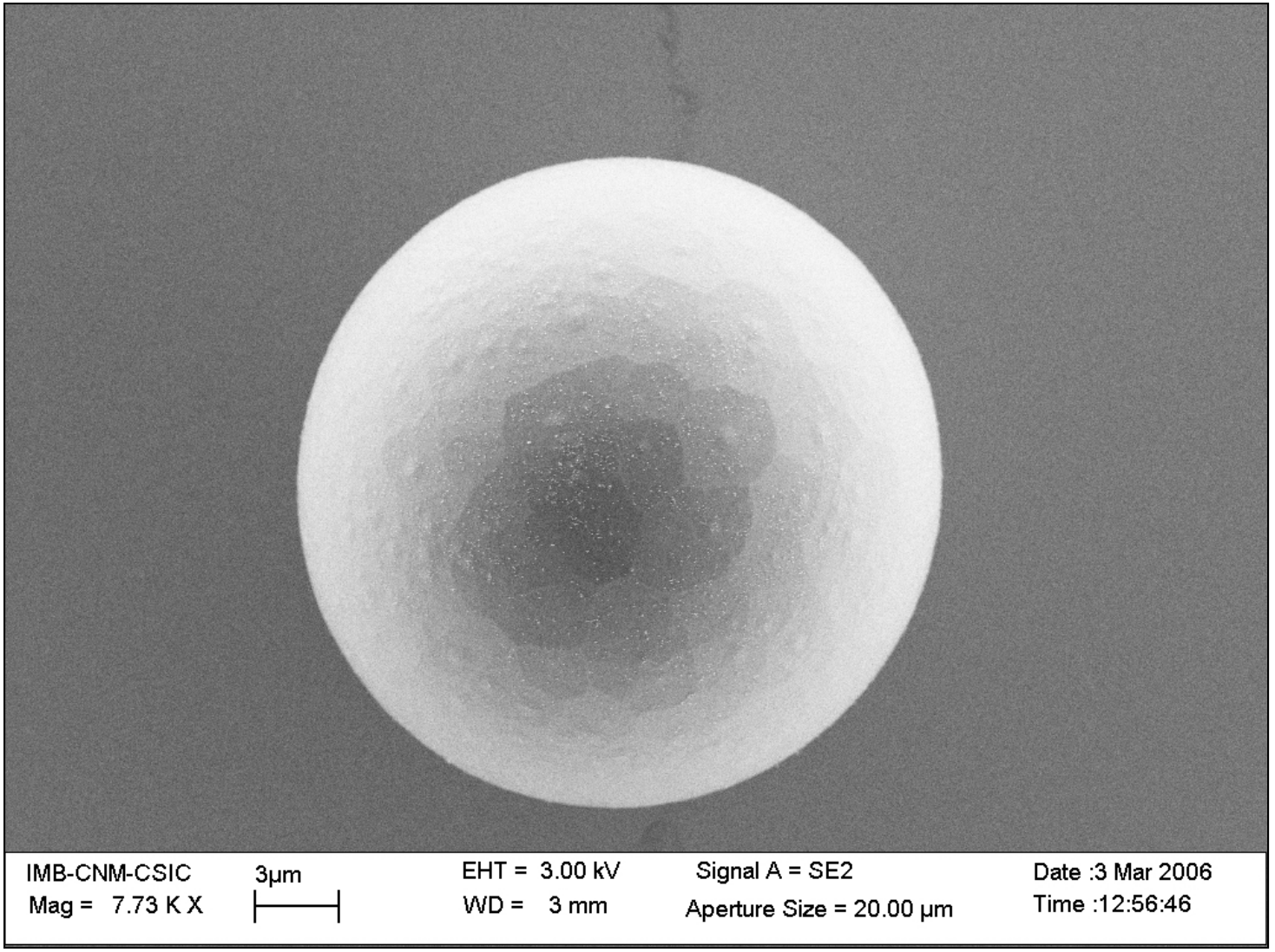
micro & nano - graph Title:

NANO-Planet

Description:

Sphere grown during a Carbon Nanotube growing process in a CVD chamber



Magnification:

Submitted by: 7.73K X

Instrument: Leo 1530 SEM

Affiliation: CNM - BARCELONA

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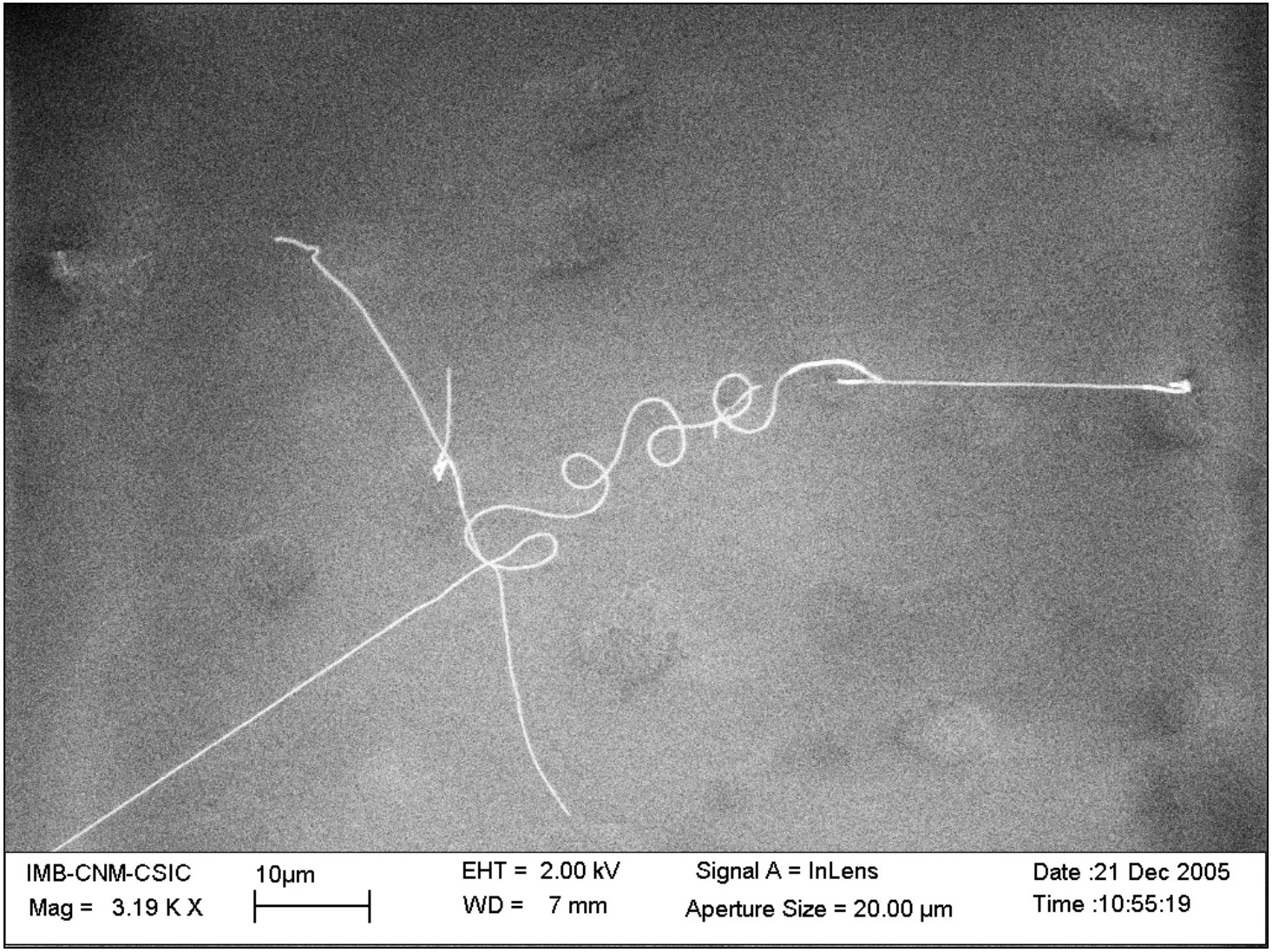
micro & nano - graph Title:

Signature

Description:

Carbon Nanotubes grown by CVD on Silicon Dioxide at high temperature



Magnification:

Submitted by: 3.19K X

Instrument: Leo 1530 SEM

Affiliation: CNM - BARCELONA

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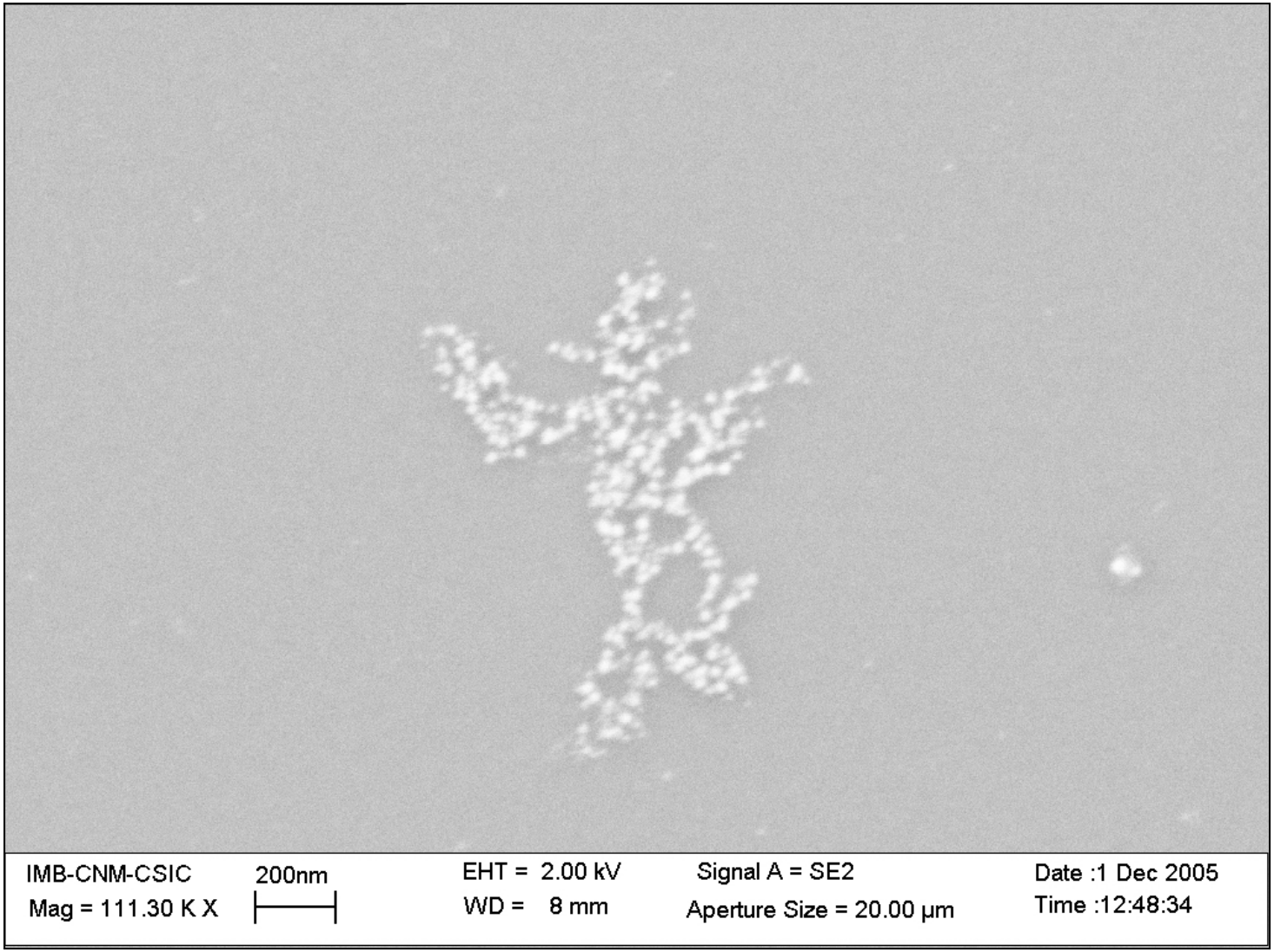
micro & nano - graph Title:

Smoking dancer

Description:

Iron nanoparticles deposited by spin coating on silicon dioxide



Magnification:
Submitted by: 111.30 K X

Instrument: Leo 1530 SEM
Affiliation: CNM - BARCELONA

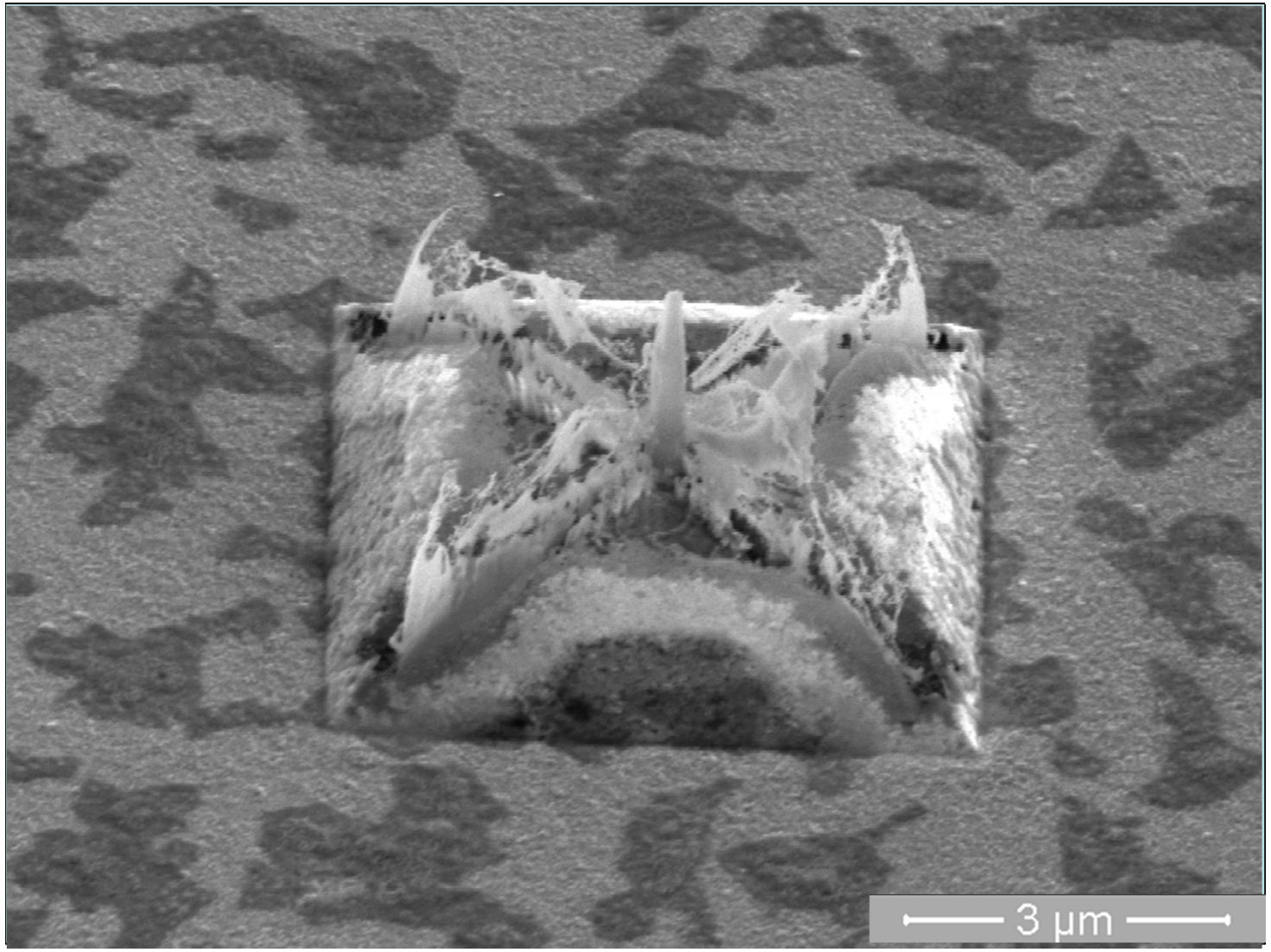
micro & nano - graph Contest

micro & nano - graph Title:

Lace on leopard

Description:

Over-etched Ni pyramid split in 4 by nitride walls



Magnification: 18k

Submitted by: Edouard Duriau

Instrument: NOVA200 NANO SEM

Affiliation: IMEC, kapeldreef 75, B3001 Leuven, Belgium

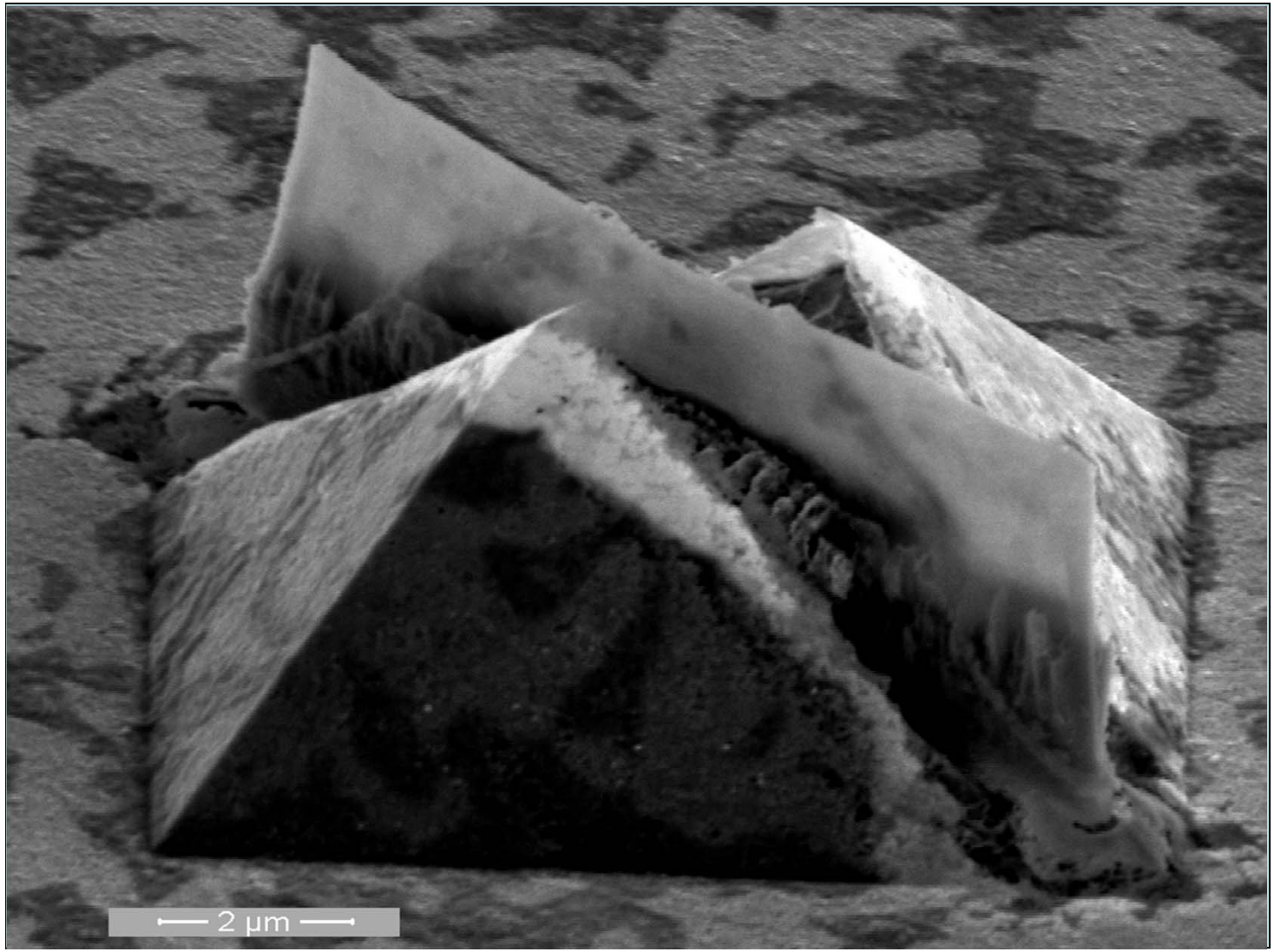
micro & nano - graph Contest

micro & nano - graph Title:

Discord fell on Gizeh

Description:

Under-etched pyramid. The white material is Cu with etched Ni underneath



Magnification: 20k

Instrument: NOVA200 NANO SEM

Submitted by: Edouard Duriau

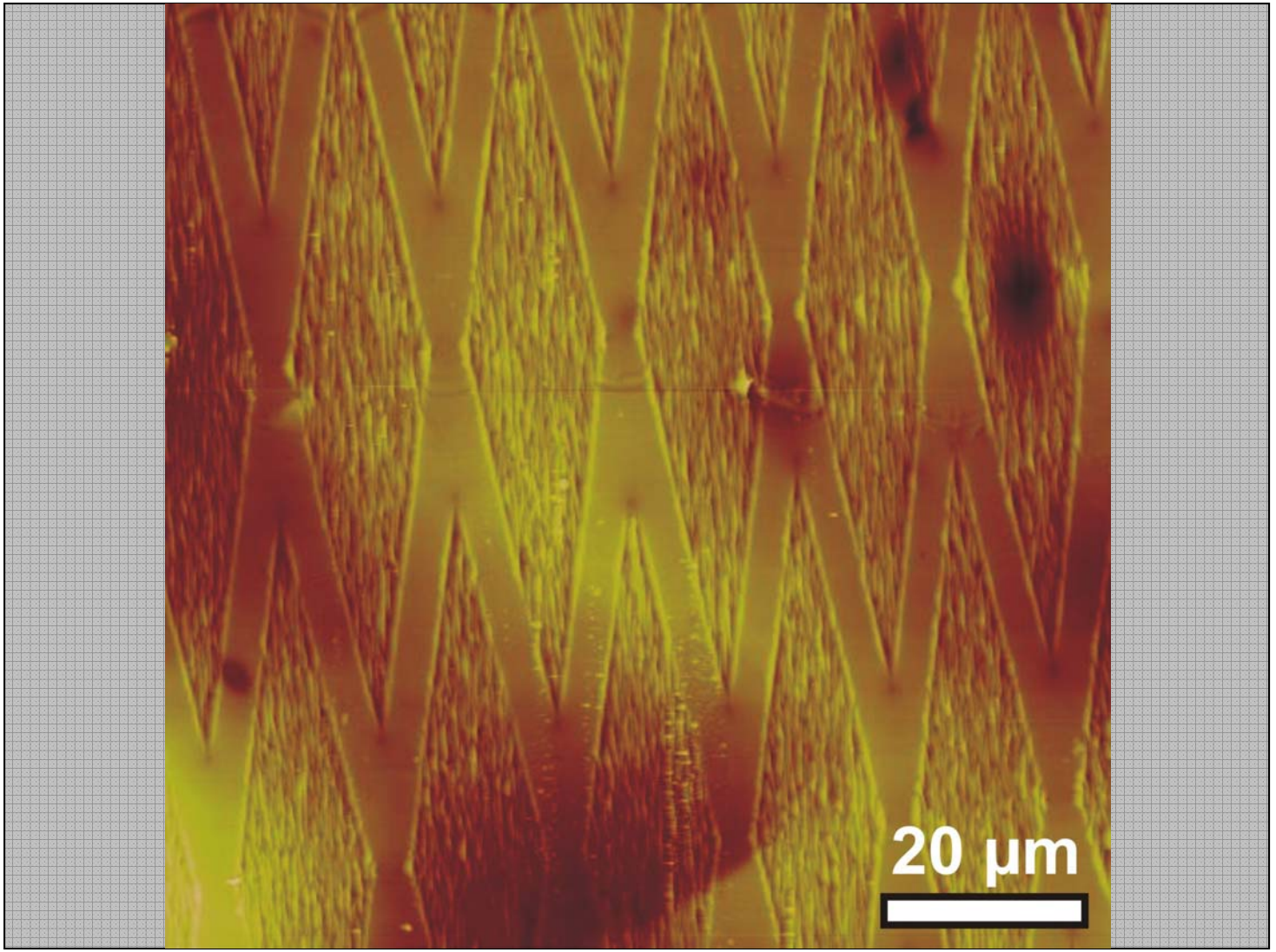
Affiliation: IMEC, kapeldreef 75, B3001 Leuven, Belgium

micro & nano - graph Contest

micro & nano - graph Title:

Micro-diamonds

Description:
Annealing the locally irradiated orientated PS substrate with ion beam above glass transition temperature causes deofmation of the substrate.The square shaped irradiatedareas change to rhombus geometries.



Magnification:

Submitted by: Yogesh Karade

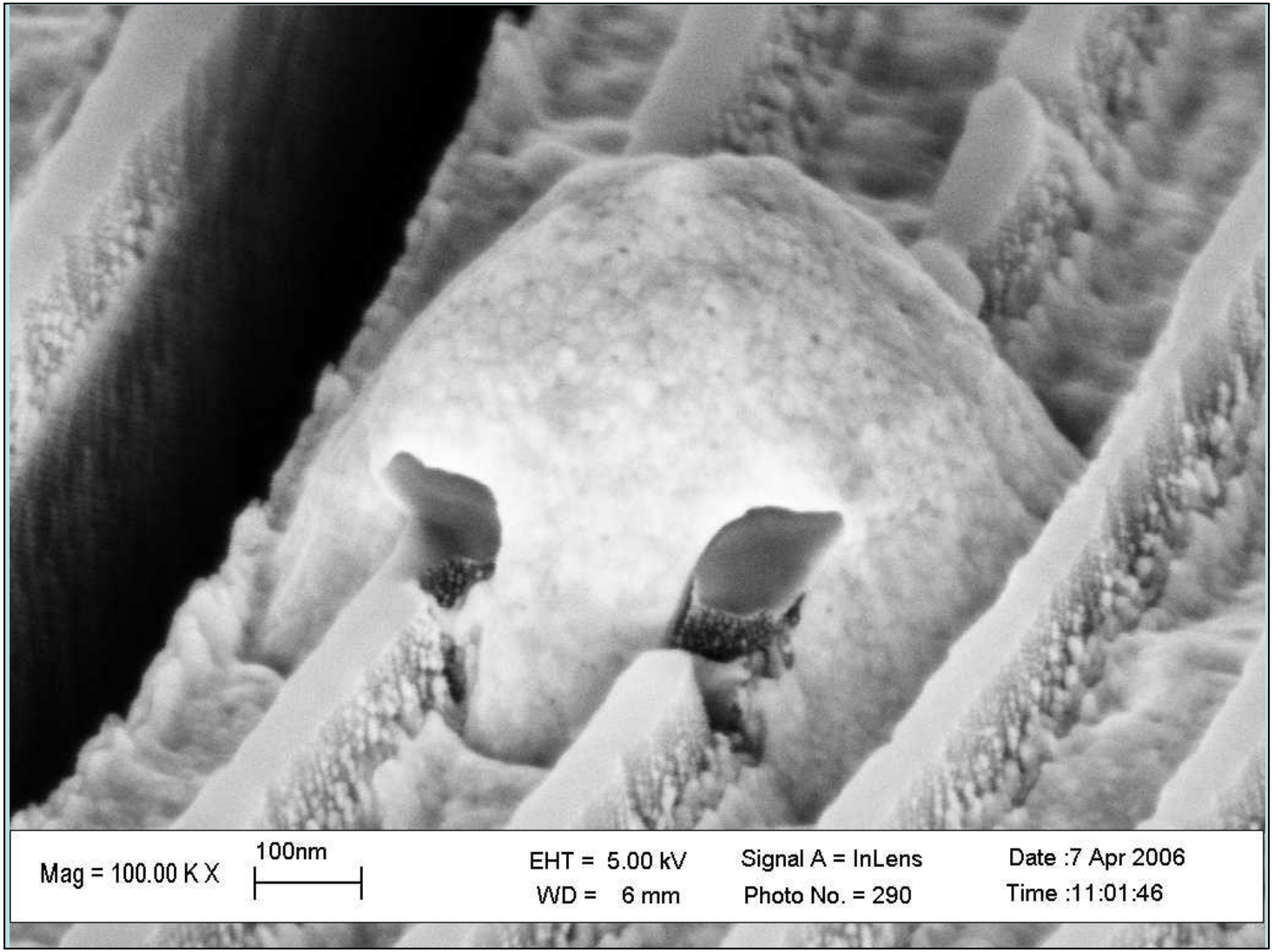
Instrument: Dimension 3100, AFM with nanoscope controller

Affiliation: Max Planck Institute for Polymer Research, Mainz, Germany

micro & nano - graph Contest

micro & nano - graph Title:

Helmet of nanocrusader



Description:
Defect on gold Fresnel zone plate after electroplating and Ar sputter etching.

Magnification: 100.000

Instrument: ZEISS SUPRA 55VP

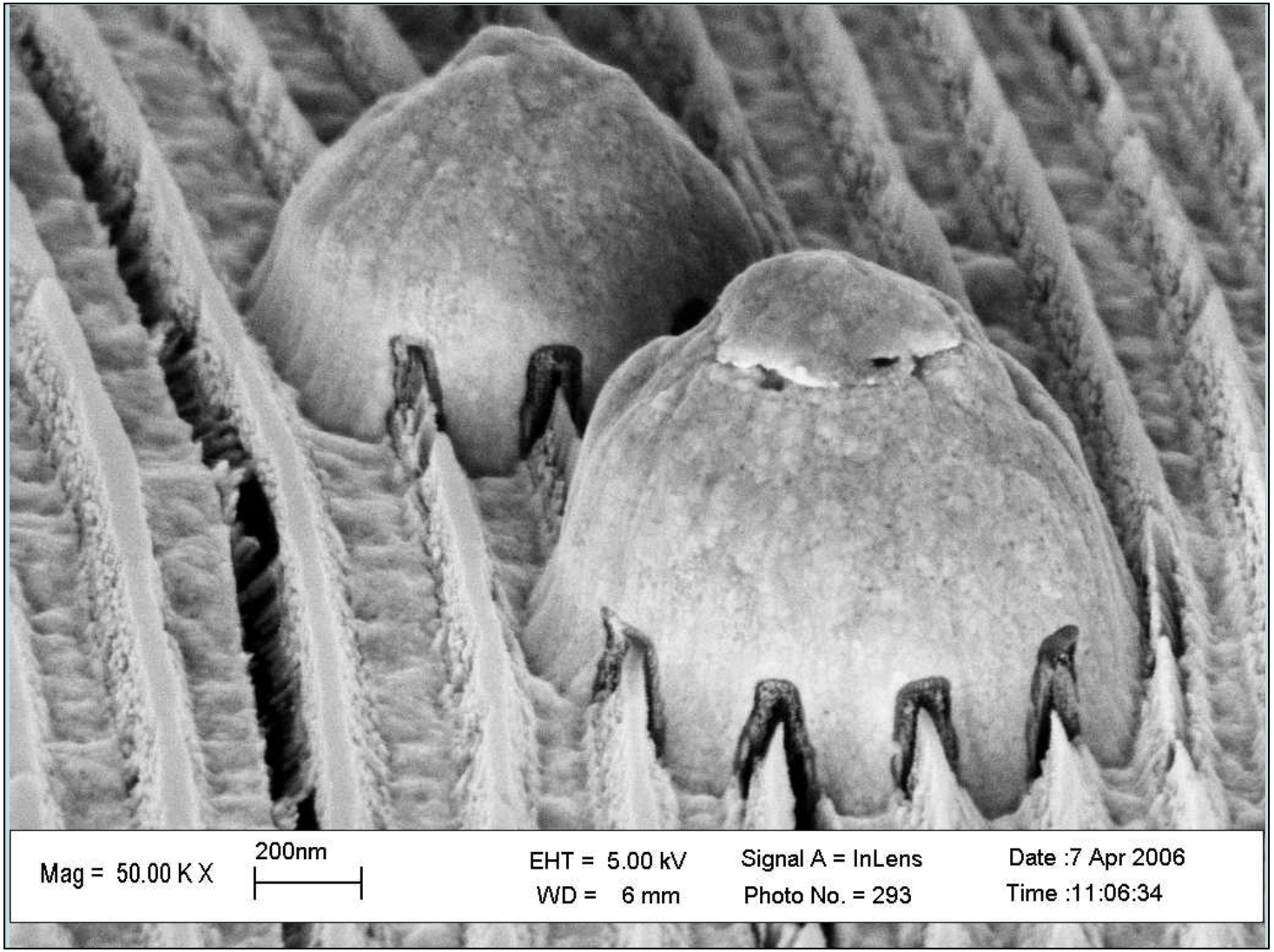
Submitted by: Konstantins Jefimovs

Affiliation: Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Switzerland

micro & nano - graph Contest

micro & nano - graph Title:

I like your hat, honey



Description:
Defects on gold Fresnel zone plate after electroplating and Ar sputter etching.

Magnification: 50.000

Instrument: ZEISS SUPRA 55VP

Submitted by: Konstantins Jefimovs

Affiliation: Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, Switzerland