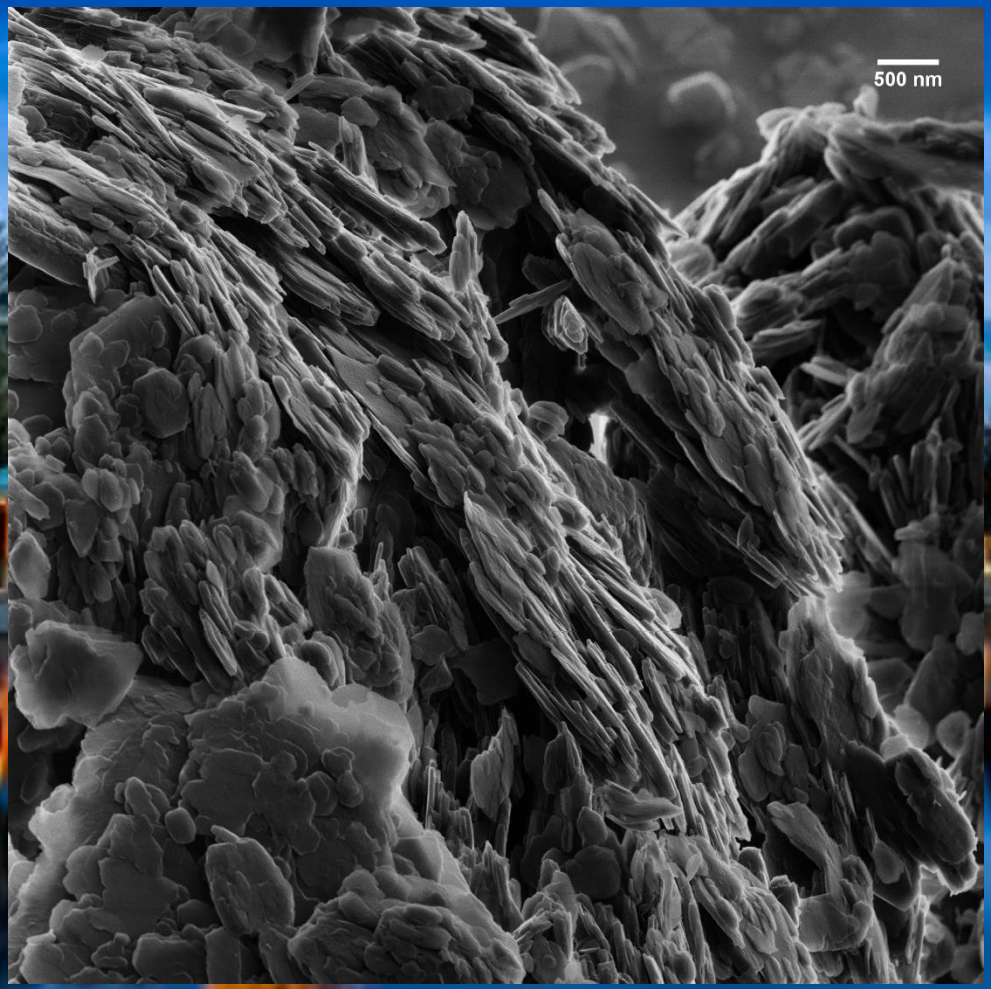
2017 EIPBN MicroGraph Contest

Kaolin charging over the edge?



Magnification (3"x4" image): 9.5KX

Instrument : Zeiss Orion Nanofab

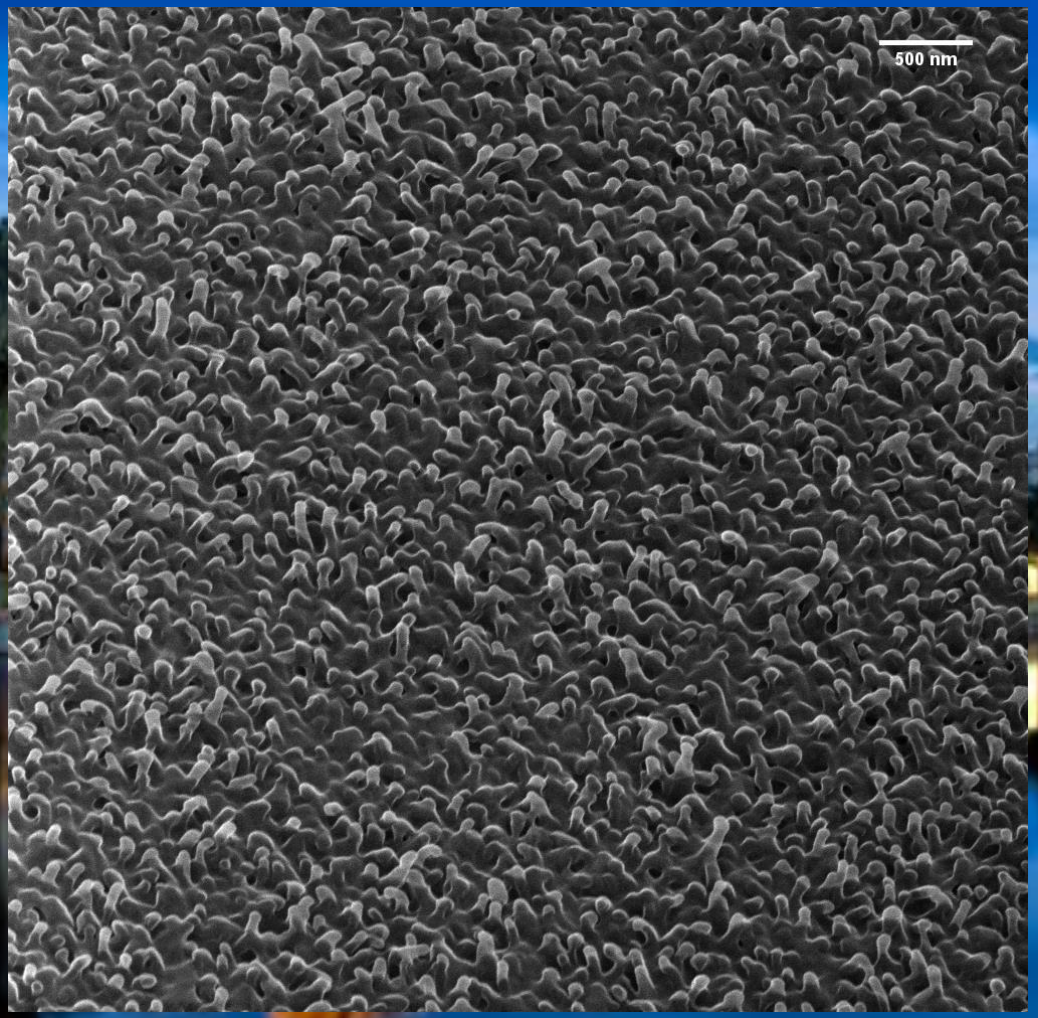
Submitted by: Annalena Wolff

Affiliation: CARF, QUT, Australia

2017 EIPBN MicroGraph Contest

Natural Born Killers

Unraveling the dragonflies magical bacteria killing powers….bacteria have not even attempted to get anywhere near these fatal nanostructures



Magnification (3"x4" image): 9.2KX

Instrument : Zeiss Orion Nanofab

Submitted by: Annalena Wolff

Affiliation: CARF, QUT, Australia

2017 EIPBN MicroGraph Contest

The Waspicorn

The waspicorn is an elusive creature waiting to be discovered by you. Are you ready for a nanocosmic adventure?

Magnification (3"x4" image): 9.2KX

Instrument : Zeiss Orion Nanofab

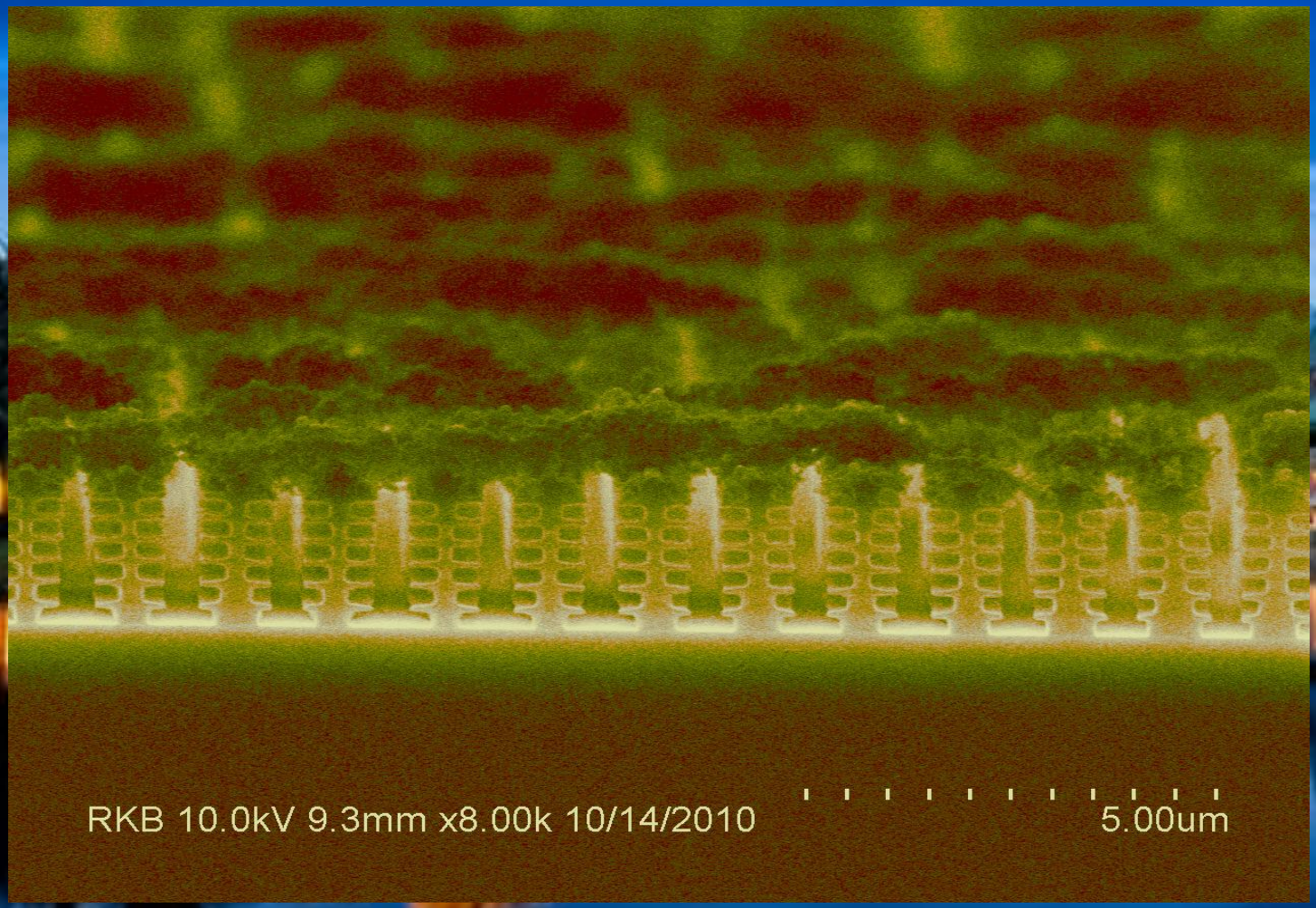
Submitted by: Annalena Wolff

Affiliation: CARF, QUT, Australia

2017 EIPBN MicroGraph Contest

Micrograph Title:
Nanoforest

Description:
12 layers of resist patterned in one electron beam exposure. The developed polymer re-deposited onto the structures.



Magnification (3"x4" image): 8KX

Instrument : Hitachi S 4800

Submitted by: Ravi Bonam

Affiliation: CNSE, SUNY-Poly
Albany, NY

2017 EIPBN MicroGraph Contest

A nano-ant farm

Description:
Self-replicating nano-ants have made themselves a burrow! There is a self-replication chamber, with several tunnels leading to it to confuse predators.

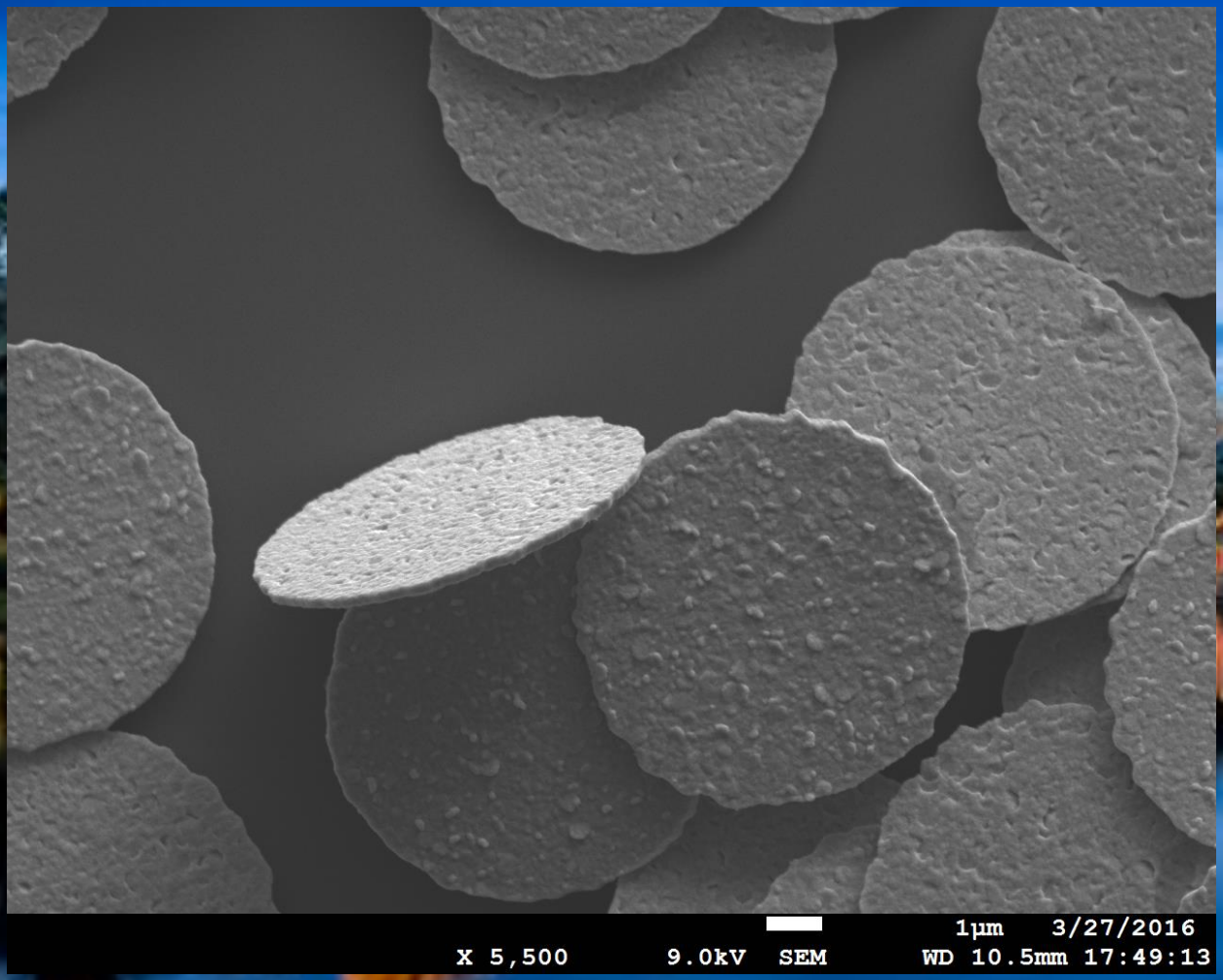
Magnification (3"x4" image): > 1Mx
Instrument : Pryadkin STM #001

Submitted by: James Owen
Affiliation: Zyvex Labs
Richardson, TX

2017 EIPBN MicroGraph Contest

Micrograph Title:
Cookie?

Description:
What should I try at the wonderful Banquet? Hmm… I find some cookies…They are DELICIOUS!

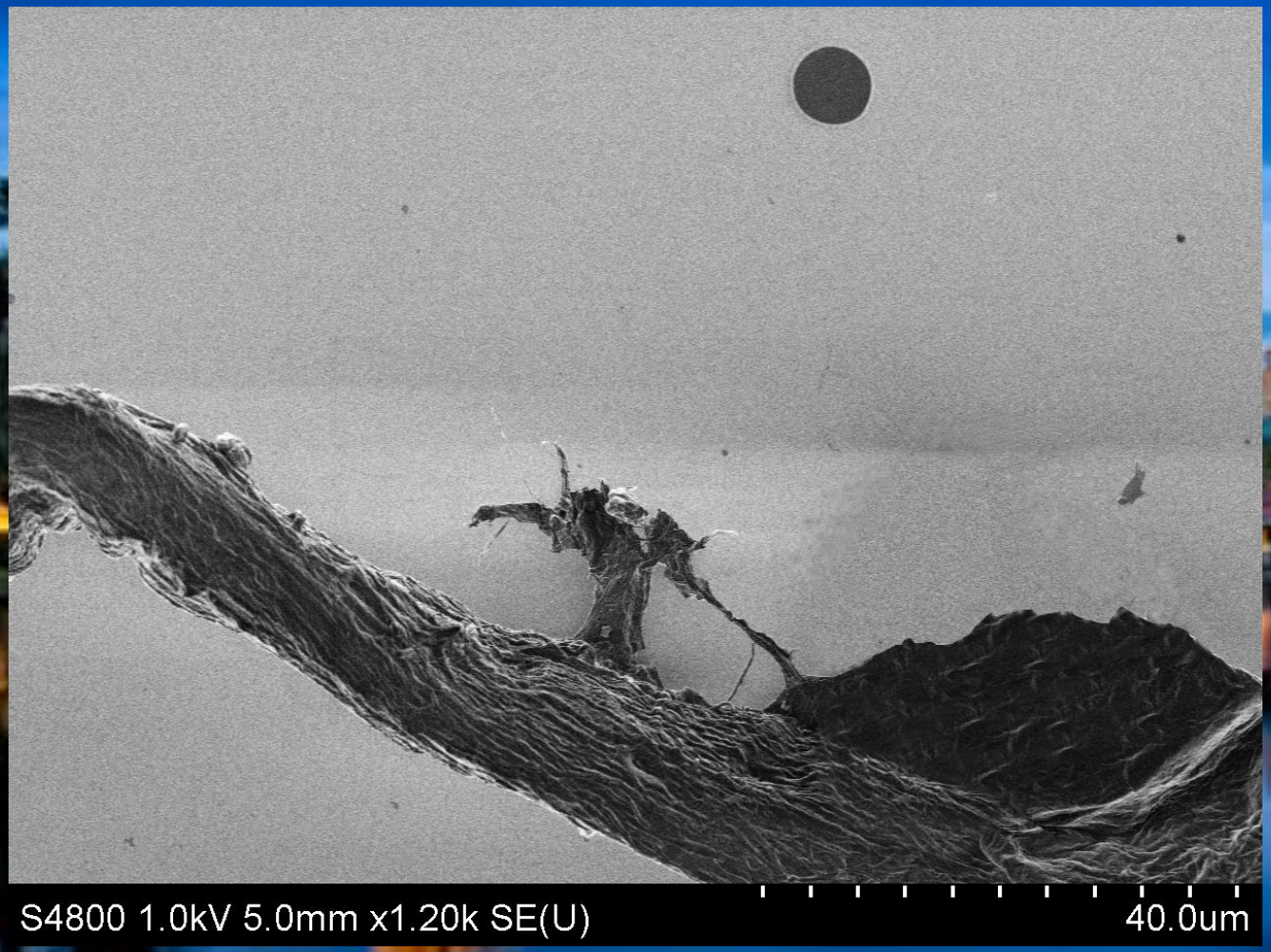


Magnification (3"x4" image): 5.5KX
Instrument : JEOL JSM-7001F

Submitted by: Yifei Wang
Affiliation: Univ. Of Southern California

2017 EIPBN MicroGraph Contest

Micrograph Title:
Lord Voldemort



Description:
I am Voldemort, the Dark Lord of nano-magic world!

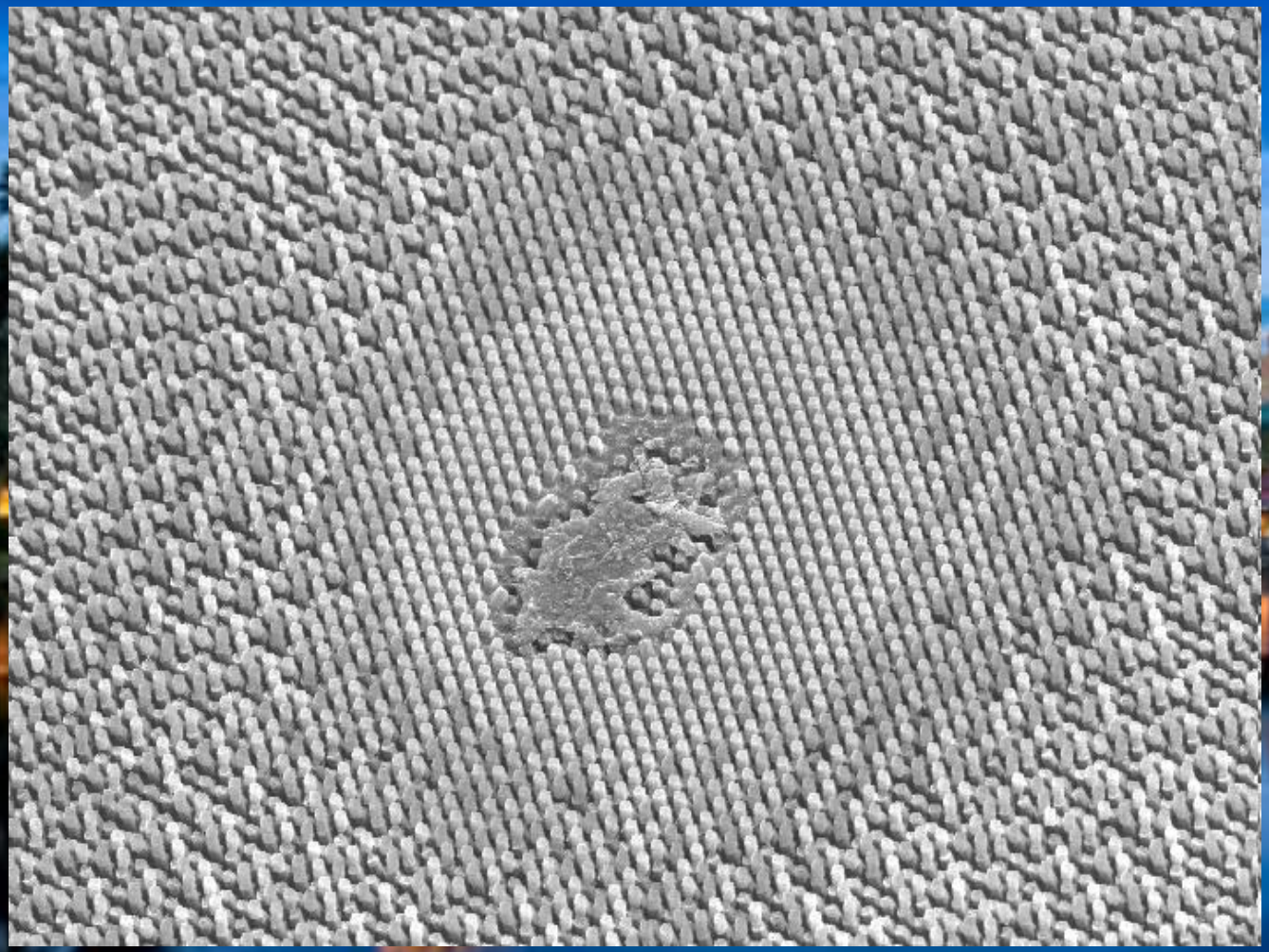
Magnification (3"x4" image): 1.2KX
Instrument : Hitachi S-4800

Submitted by: Yifei Wang
Affiliation: Univ. Of Southern California

2017 EIPBN MicroGraph Contest

Micrograph Title:
Funeral

Description:
China's first premier Zhou Enlai died in Jan, 1976. His guard carried the coffin and lots of people came to send their beloved premier.

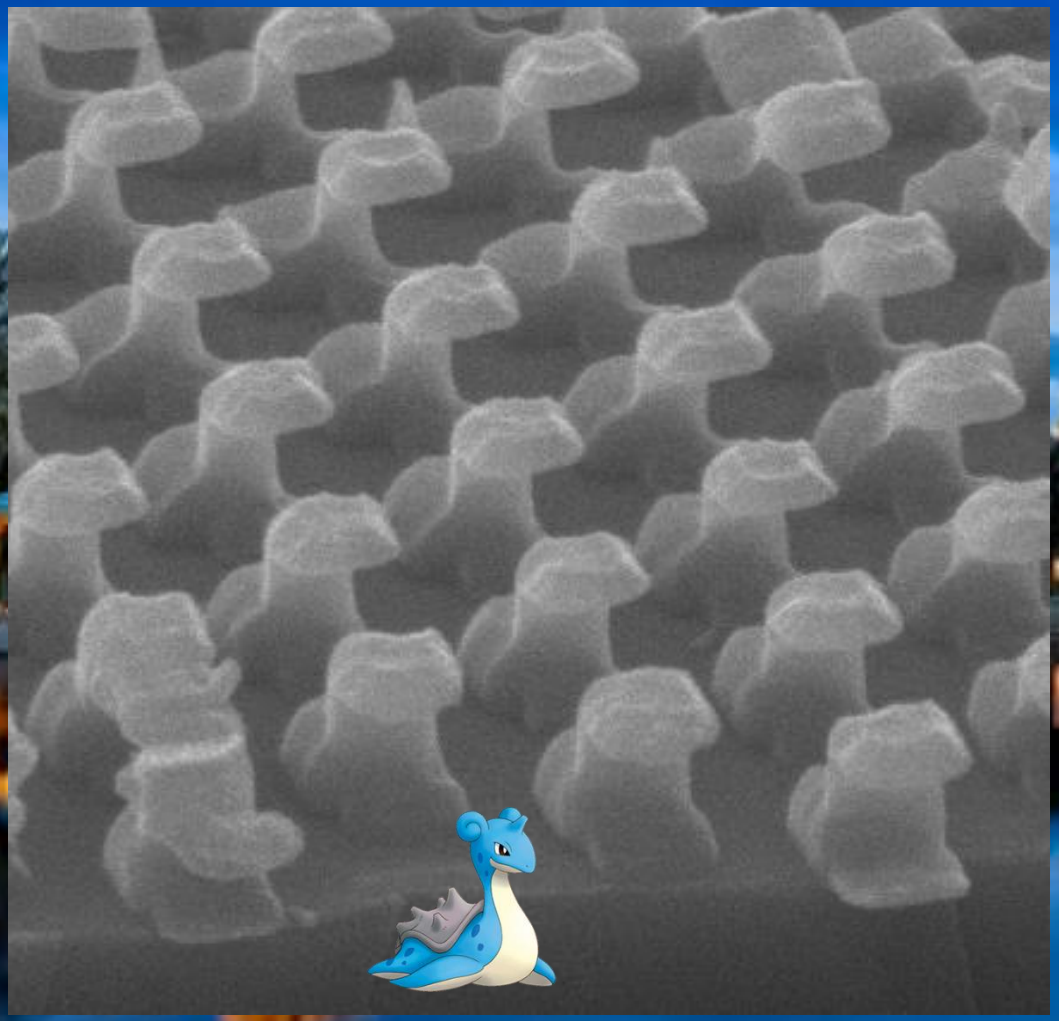


Magnification (3"x4" image): 4000X **Instrument :** Philips XL30 ESEM

Submitted by: Shuyan ZHU **Affiliation:** City University of Hong Kong

2017 EIPBN MicroGraph Contest

Micrograph Title:
Pokémon Go - Lapras



Description:
Lots of nano Lapras were found in cleanroom by reactive ion etching multiple layer nanopillars.

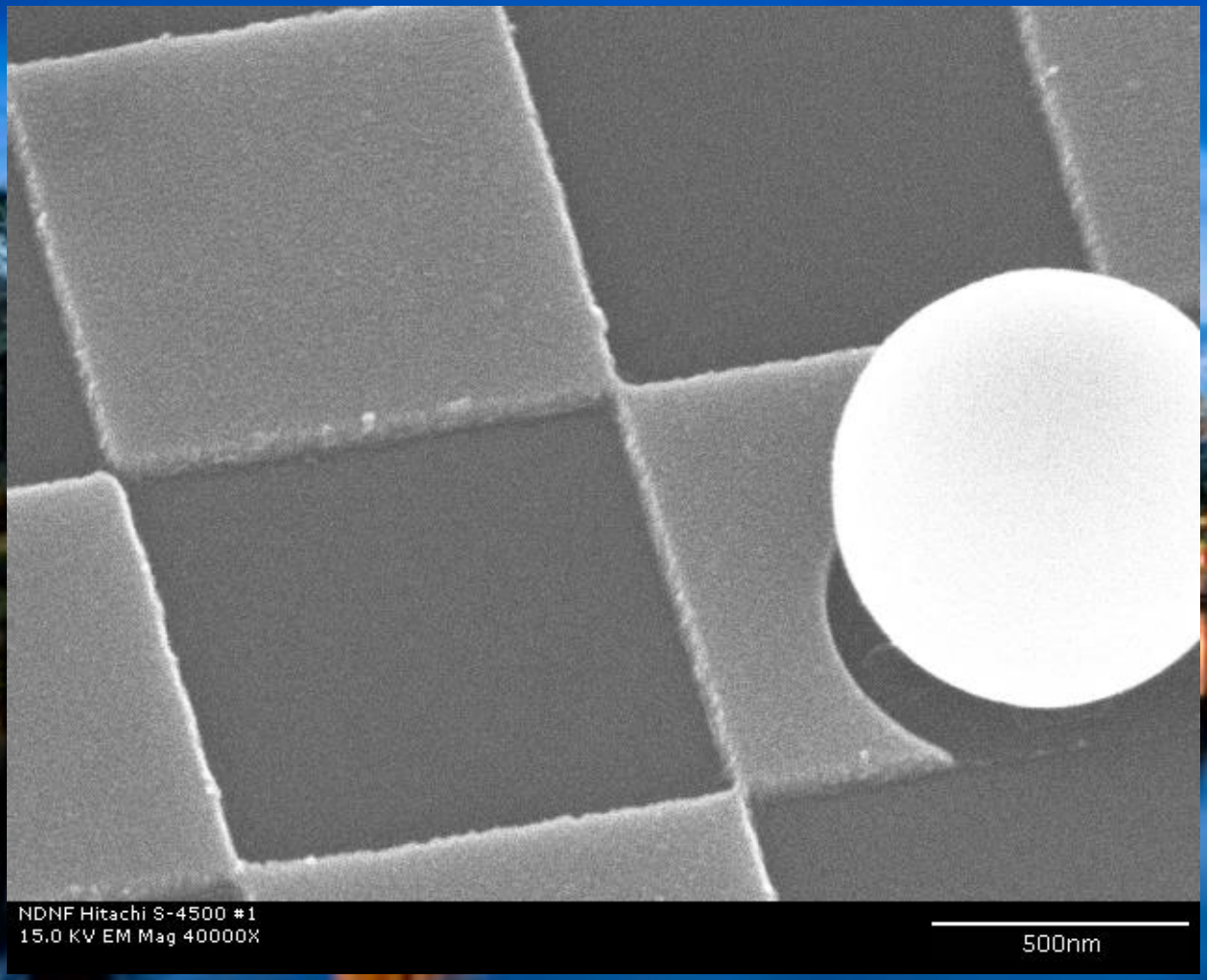
Magnification (3"x4" image): 40000X **Instrument :** Philips XL30 ESEM

Submitted by: Shuyan ZHU **Affiliation:** City University of Hong Kong

2017 EIPBN MicroGraph Contest

Micrograph Title:
“Bowling Ball”

Description:
Lift-off patterning is interrupted by unexpected interloper.



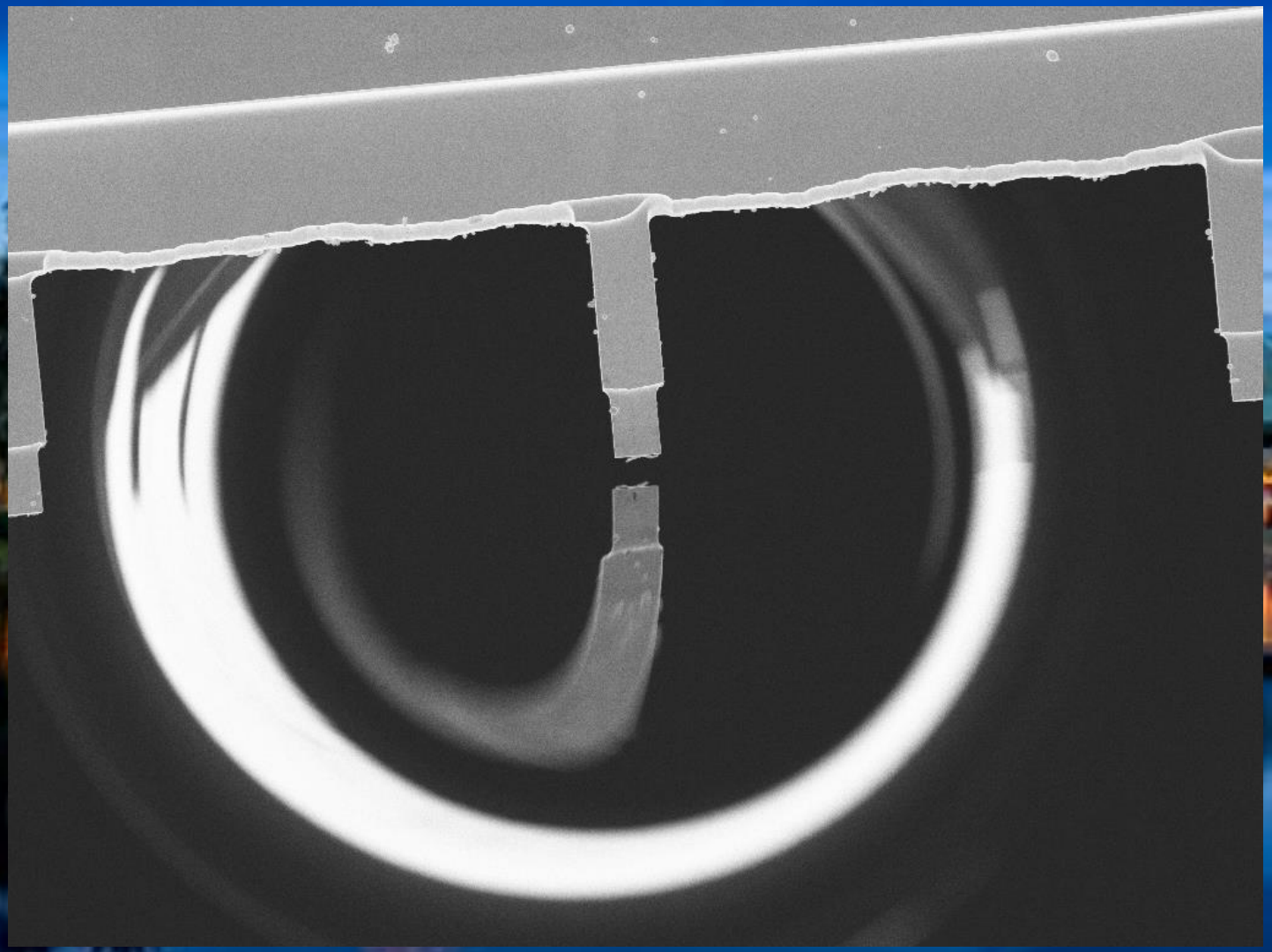
Magnification (3"x4" image): 40KX
Submitted by: Mike Young

Instrument : Hitachi S4500
Affiliation: Univ. of Notre Dame
Indiana, USA

2017 EIPBN MicroGraph Contest

Micrograph Title: Mirror, Mirror, in the SEM

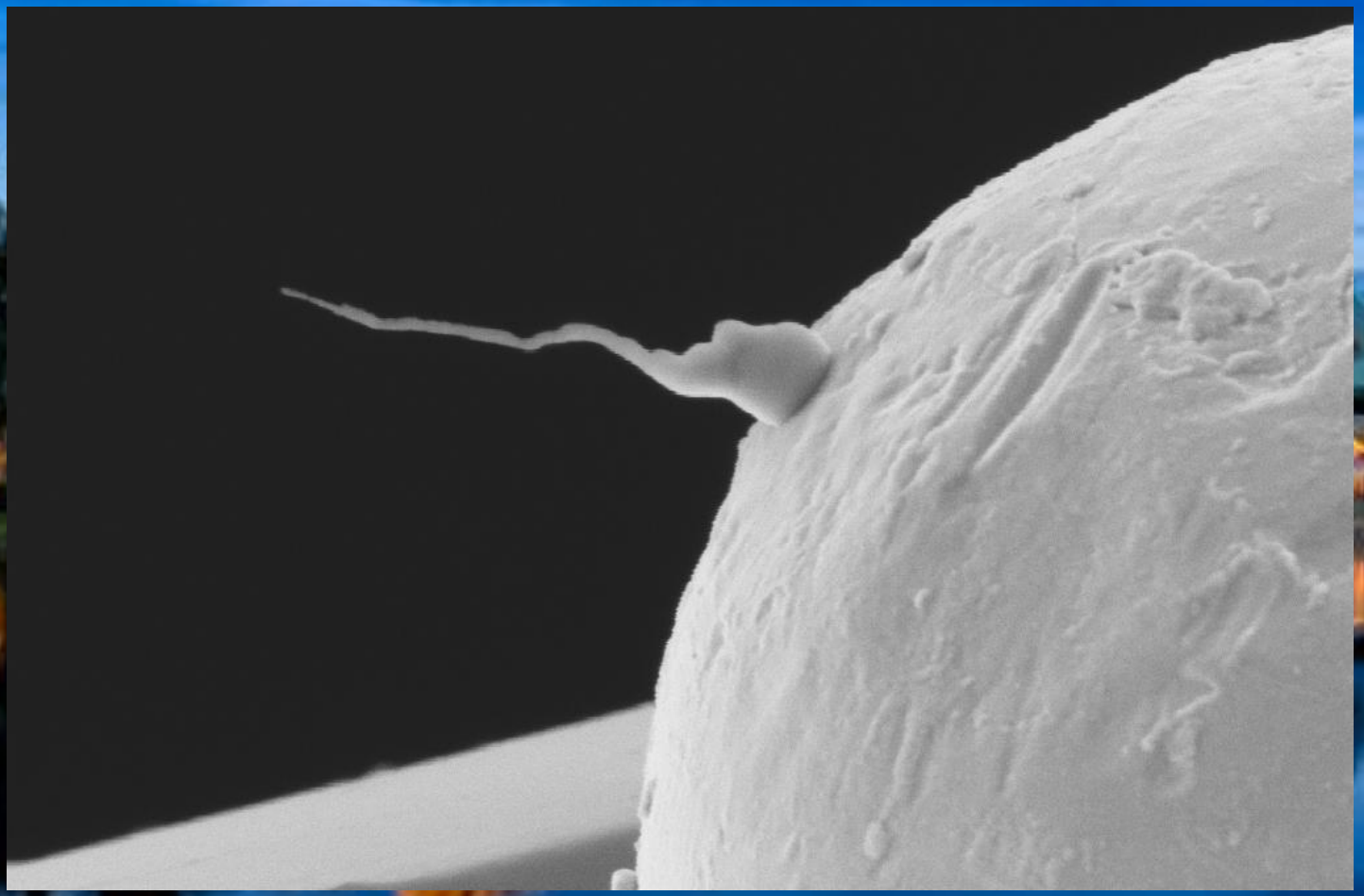
Mrs. Silicon Cantilever checking herself out in an electron mirror



Magnification (3"x4" image): 186X
Instrument : Zeiss LEO 1525 SEM
Submitted by: Navid Abedzadeh
Affiliation: MIT, Cambridge, MA

2017 EIPBN MicroGraph Contest

Micrograph Title:
Tinception



Come back in nine months for tiny tin nanoparticles

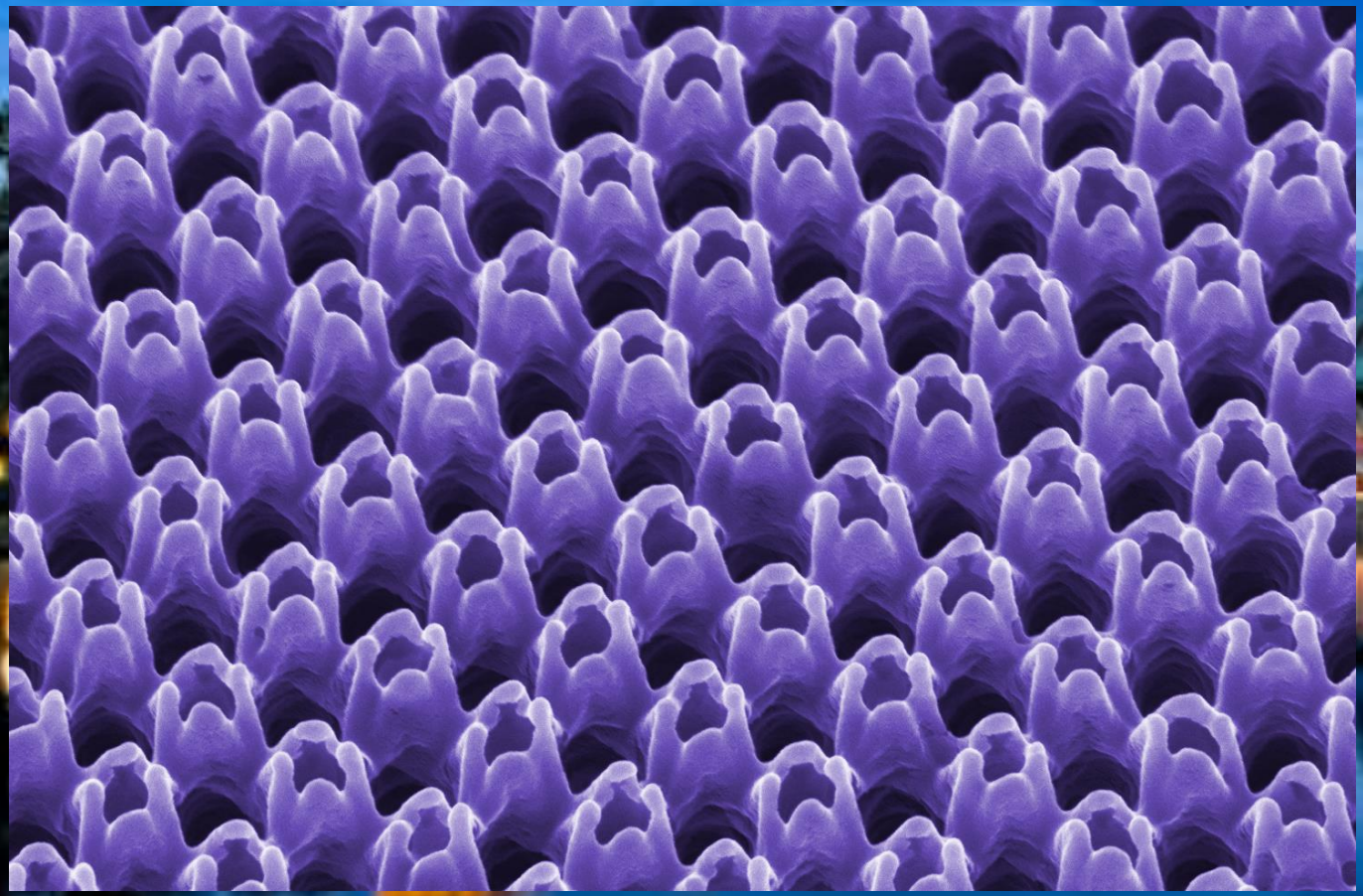
Magnification (3"x4" image): 28KX
Instrument : Zeiss LEO 1525 SEM

Submitted by: Navid Abedzadeh
Affiliation: MIT, Cambridge, MA

2017 EIPBN MicroGraph Contest

Micrograph Title:

Tulips Field



Description:
Inherently 3D pattern in PMMA, obtained in a single exposure by diffractive interference lithography at extreme ultraviolet wavelength. Or just a tulip field.

Magnification (3"x4" image): 30kX

Submitted by: Roberto Fallica

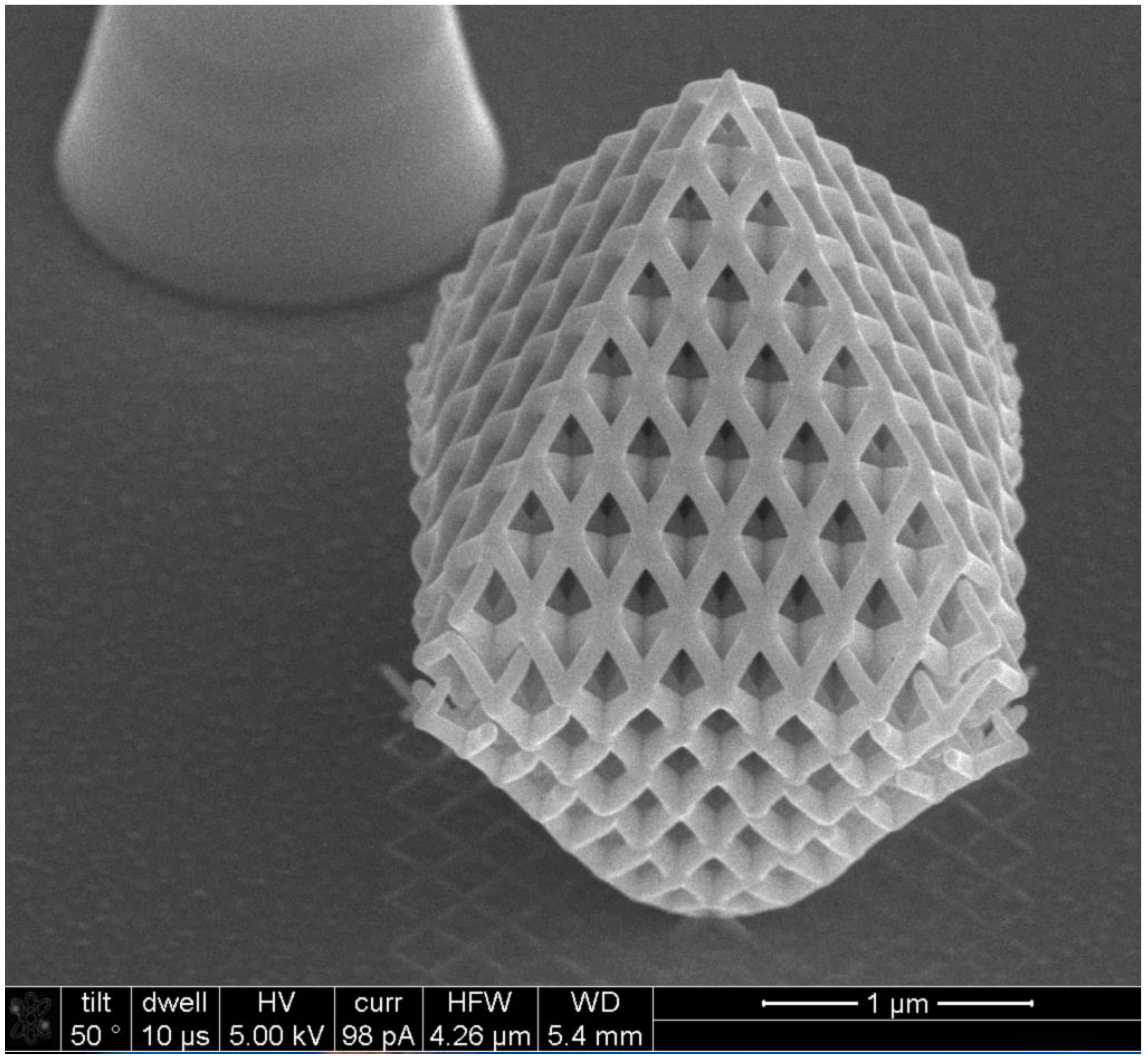
Instrument: Zeiss SUPRA 55

Affiliation: Paul Scherrer Institute, Switzerland

2017 EIPBN MicroGraph Contest

Micrograph Title:
An overripe octahedron .

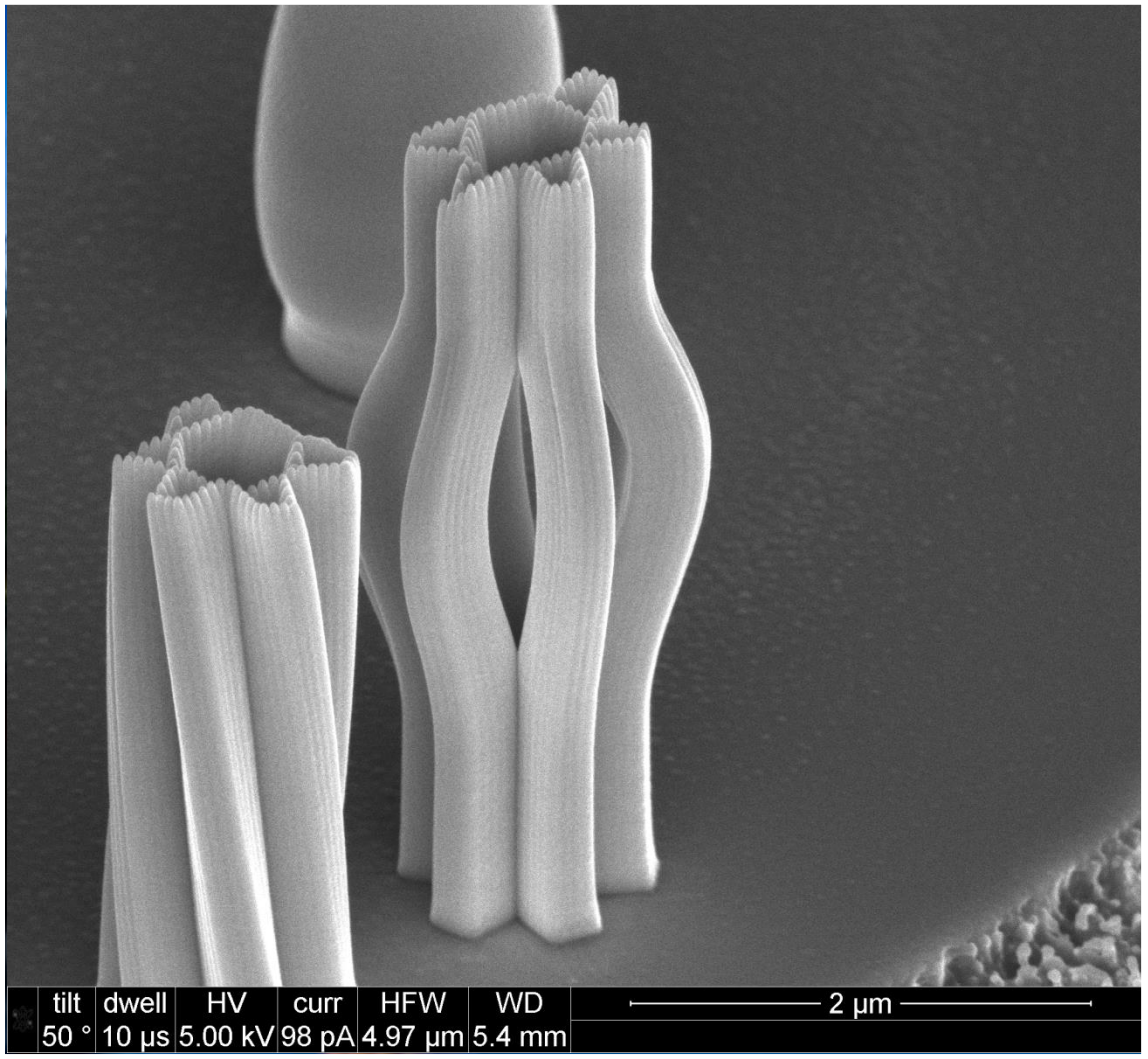
Description:
Electron beam induced deposition. A slightly saggy octahedron on its tip.



Magnification (3"x4" image): -24KX
Instrument : Nova NanoLab 600i
Submitted by: Niels Noordzij
Affiliation: TU Delft. Netherlands

2017 EIPBN MicroGraph Contest

Micrograph Title:
Nano Skyscraper



Description:
Electron beam induced deposition. Hollow tubes in a neat rotationally symmetric configuration. Scaled up a factor 10^9, this would make a nice skyscraper. (Swimming pool, roof gardens and elevator should be added to ramp up the prizes for the penthouse suites of course.)

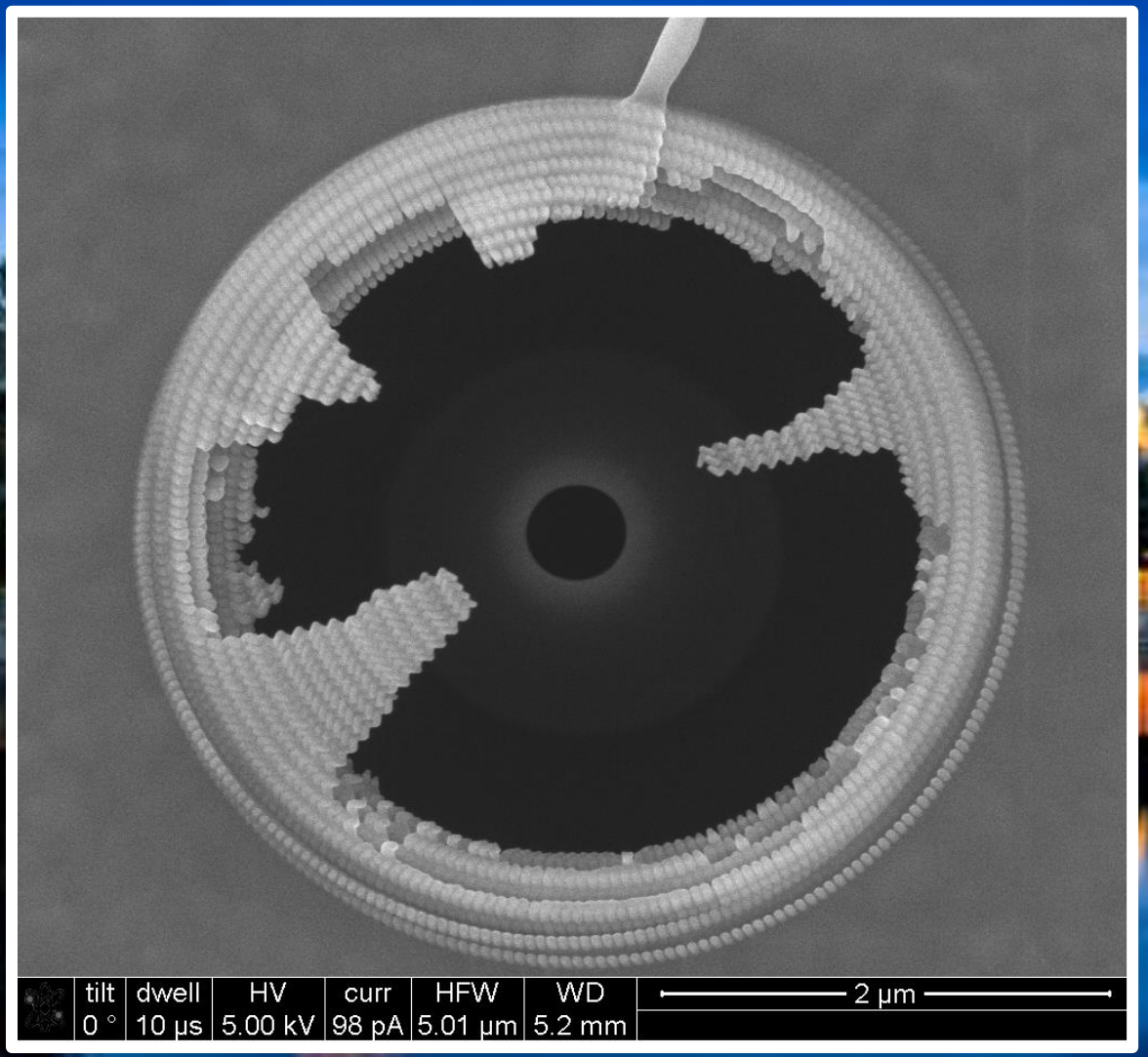
Magnification (3"x4" image): 20KX
Instrument : Nova NanoLab 600i

Submitted by: Niels Noordzij
Affiliation: TU Delft. Netherlands

2017 EIPBN MicroGraph Contest

Micrograph Title:
Nano scale knitting pattern fail.

Description:
(The successive structure turned out nice and neat ;)).

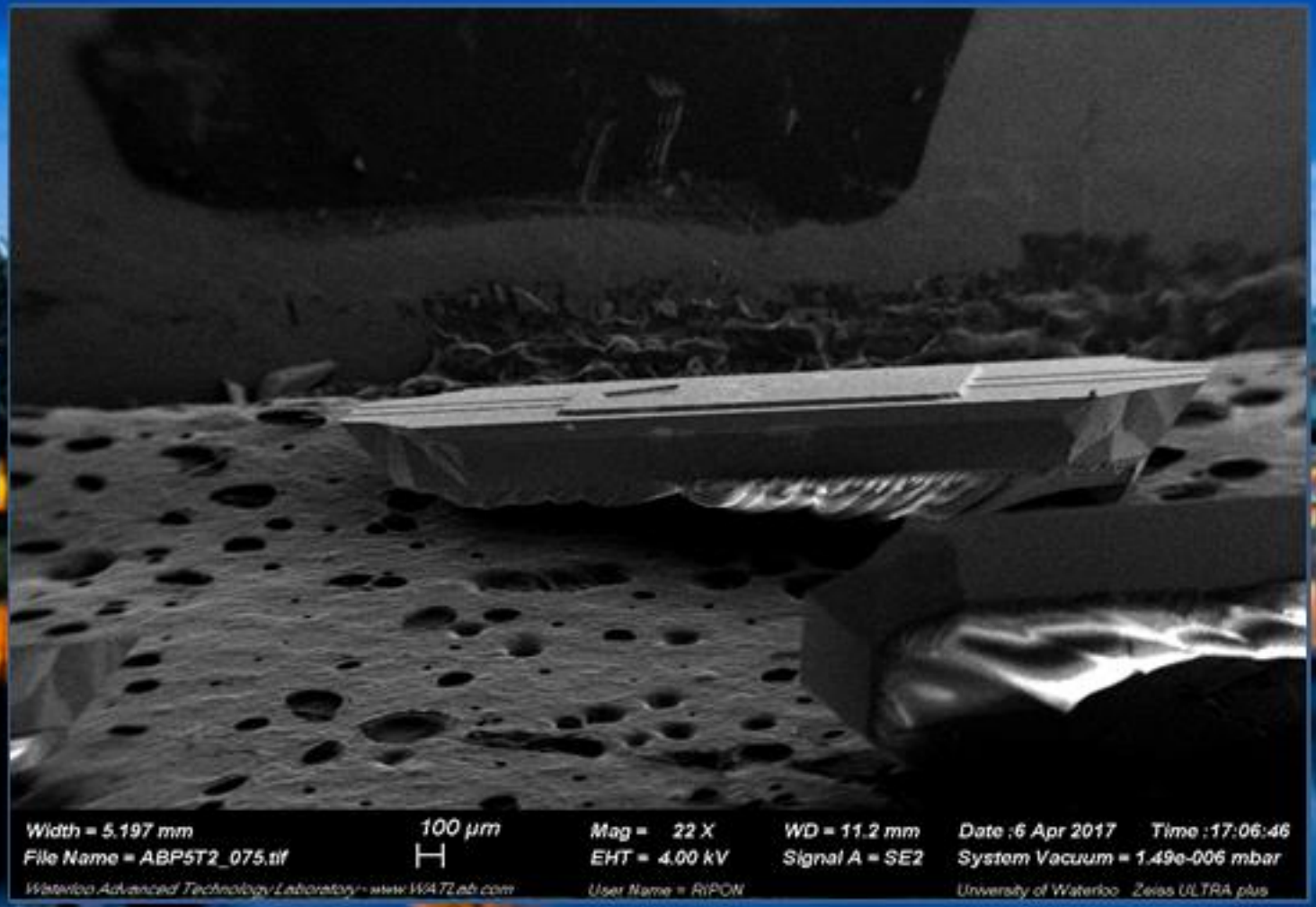


Magnification (3"x4" image): 21KX
Instrument : Nova NanoLab 600i
Submitted by: Niels Noordzij
Affiliation: TU Delft. Netherlands

2017 EIPBN MicroGraph Contest

Micrograph Title:
US Navy Ship with four runways

Description:
AFM probe after dry etching.



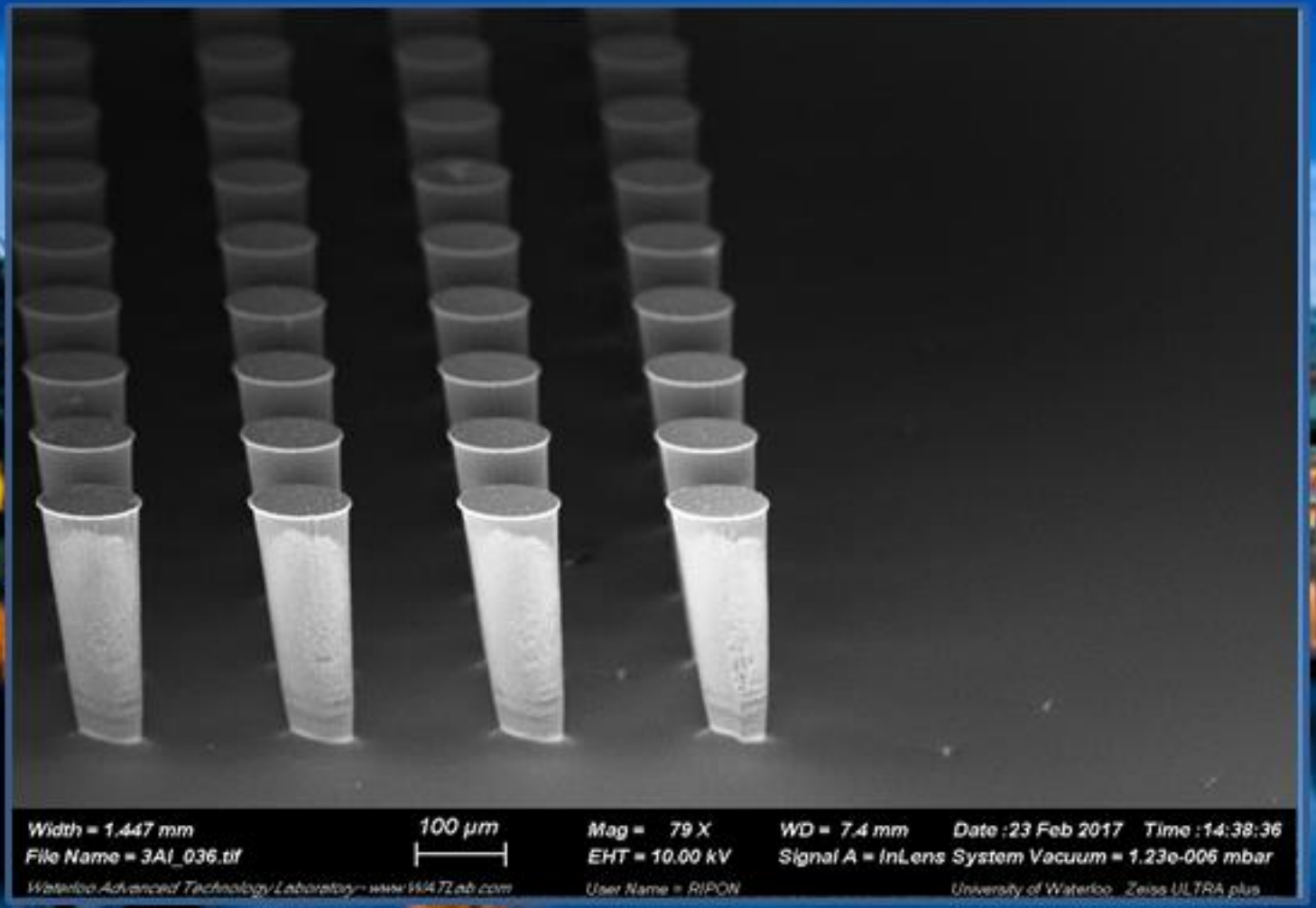
Magnification (3"x4" image): 22 X **Instrument:** Zeiss Ultra SEM

Submitted by: Ripon Dey **Affiliation:** University of Waterloo
(Waterloo, ON, Canada)

2017 EIPBN MicroGraph Contest

Micrograph Title:
Party glasses (full of beer)

Description:
Negatively tapered pillar arrays prepared with lift-off process.



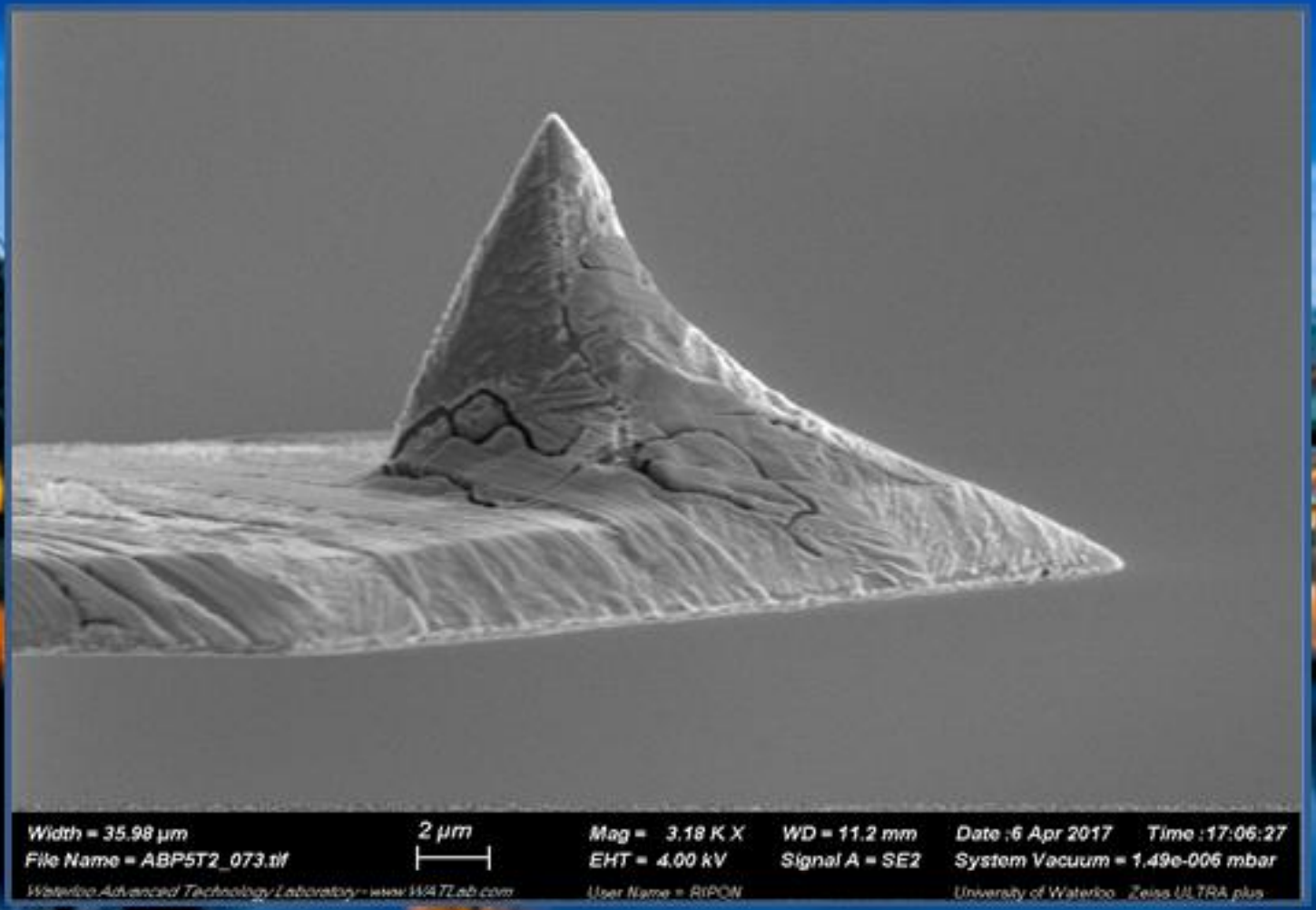
Magnification (3"x4" image): 79 X **Instrument:** Zeiss Ultra SEM

Submitted by: Ripon Dey **Affiliation:** University of Waterloo
(Waterloo, ON, Canada)

2017 EIPBN MicroGraph Contest

Micrograph Title:
Snowy Everest

Description:
AFM probe right after thermal oxidation and HF etching.



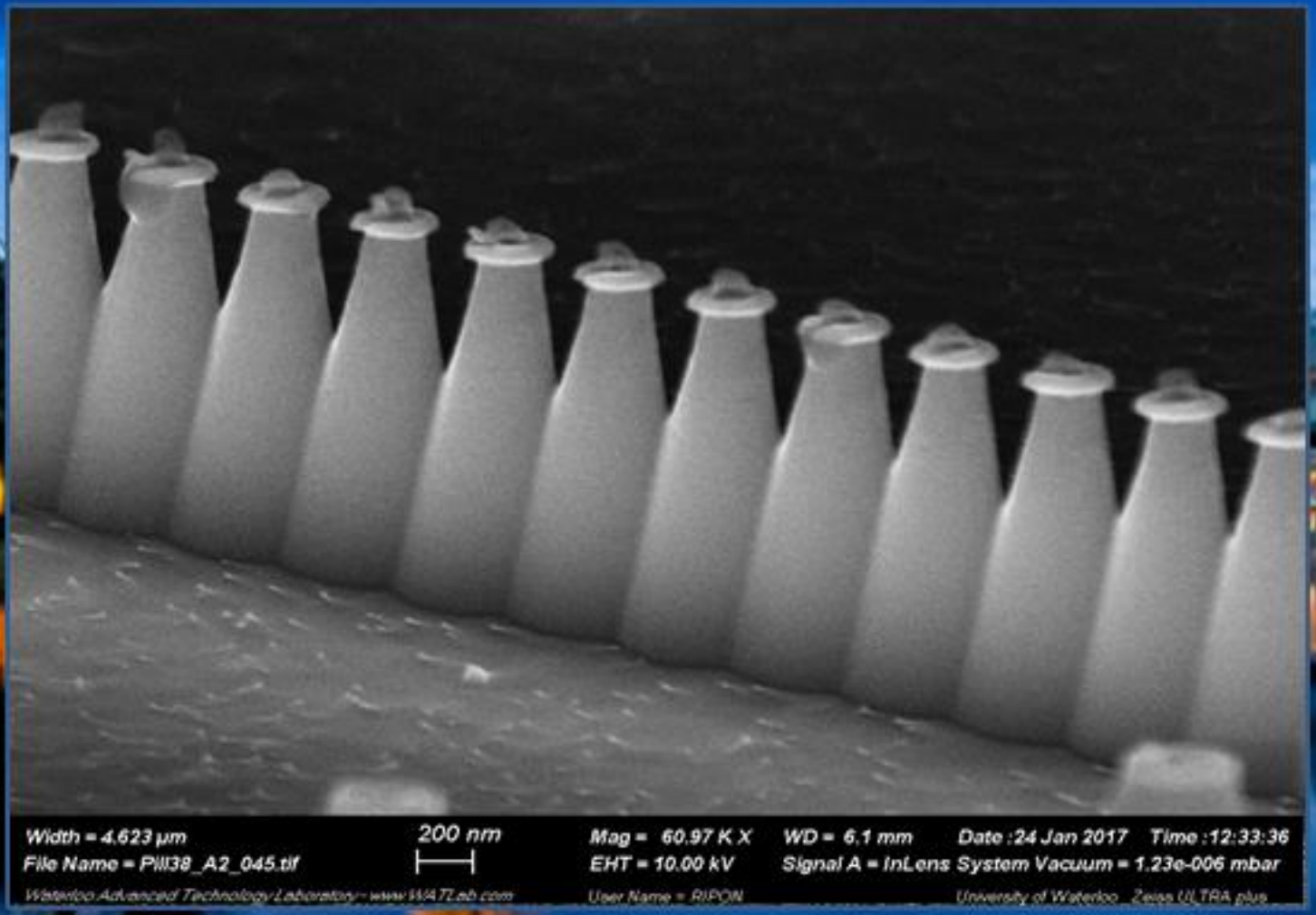
Magnification (3"x4" image): 3.18 kX **Instrument :** Zeiss Ultra SEM

Submitted by: Ripon Dey **Affiliation:** University of Waterloo
(Waterloo, ON, Canada)

2017 EIPBN MicroGraph Contest

Micrograph Title:
Bowling Pin

Description:
Positively tapered pillar on Si.



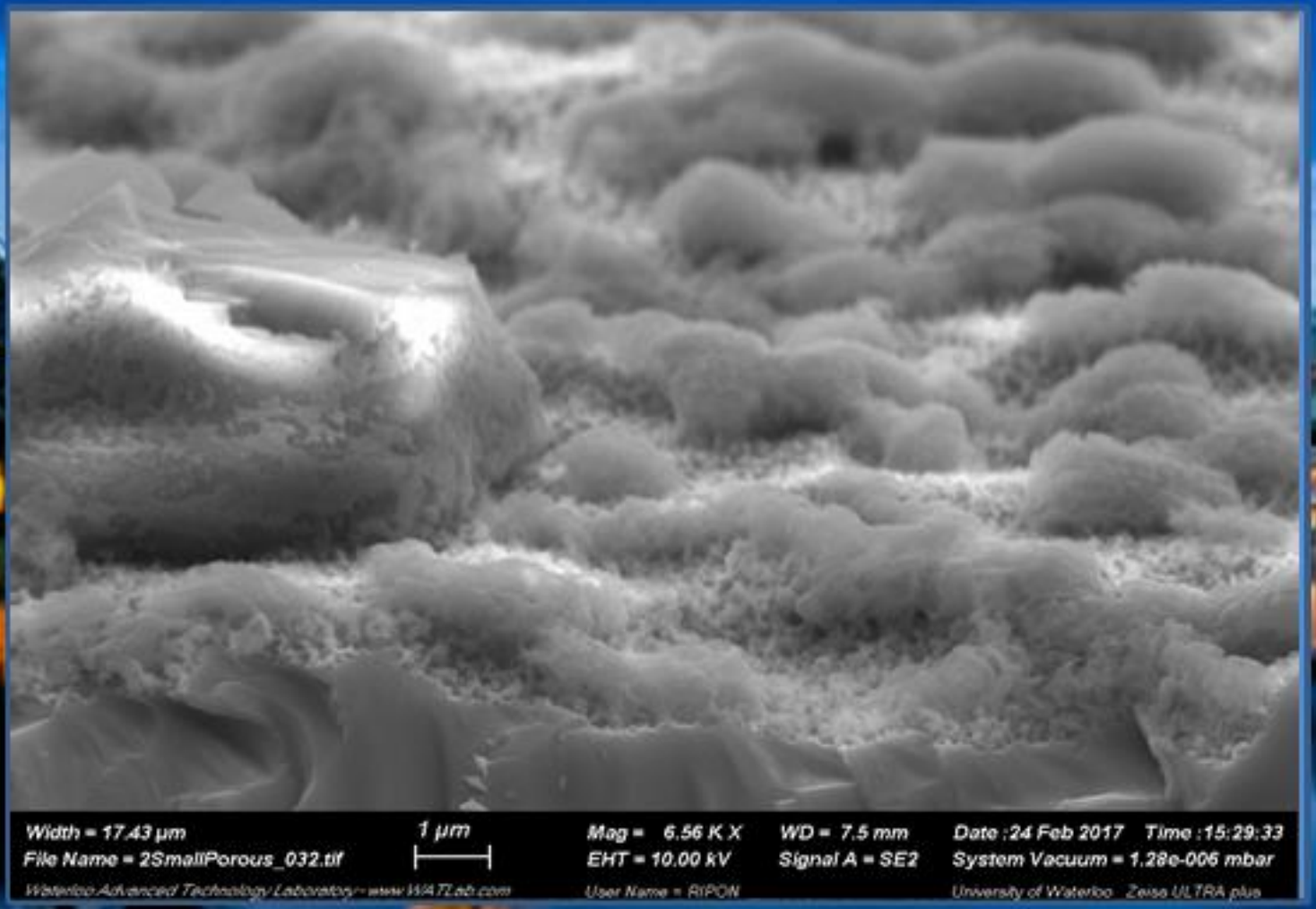
Magnification (3"x4" image): 61 KX **Instrument :** Zeiss Ultra SEM

Submitted by: Ripon Dey **Affiliation:** University of Waterloo
(Waterloo, ON, Canada)

2017 EIPBN MicroGraph Contest

Micrograph Title:
Egg in Uterus

Description:
Membranes on silicon.



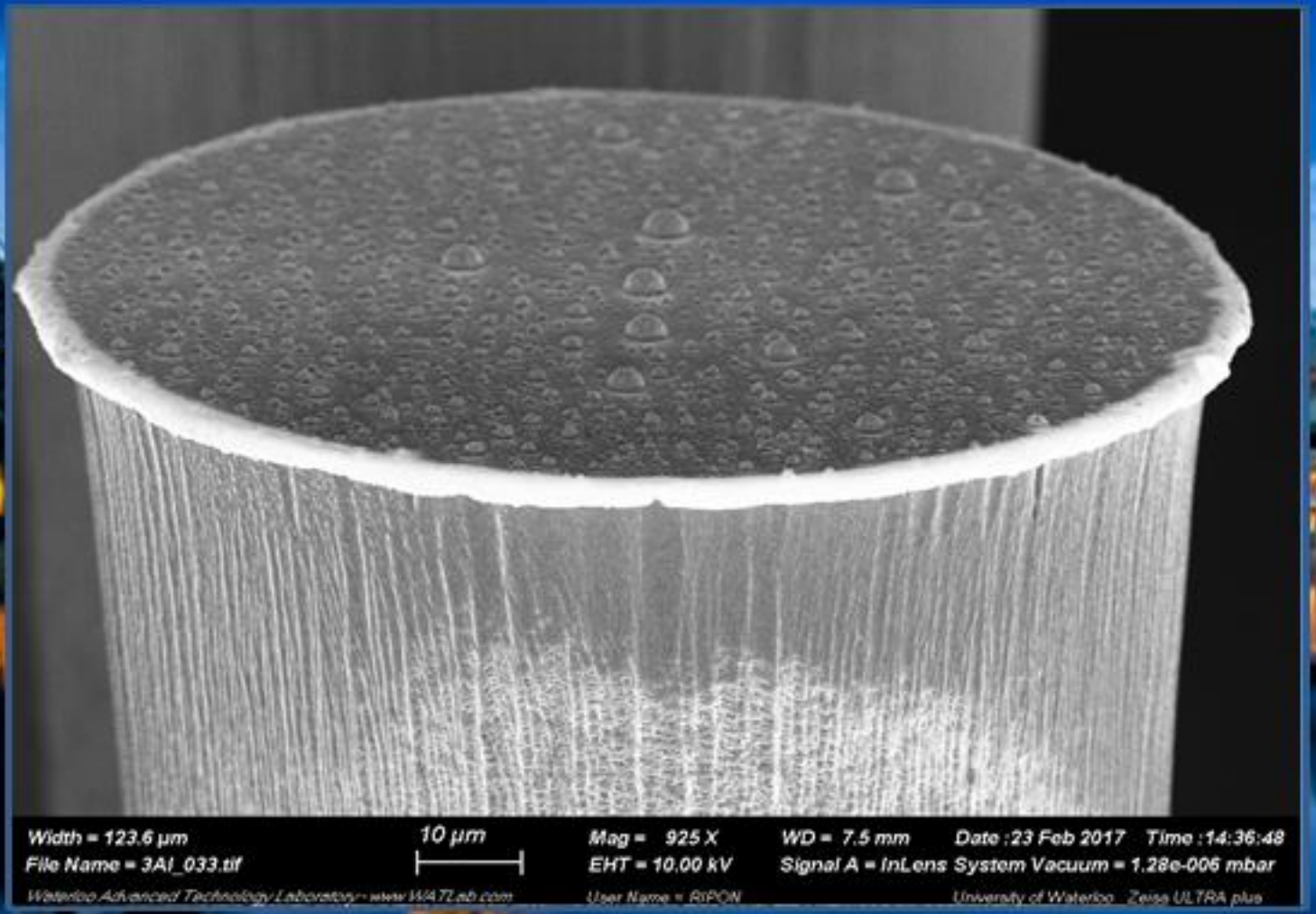
Magnification (3"x4" image): 6.6 KX **Instrument:** Zeiss Ultra SEM

Submitted by: Ripon Dey **Affiliation:** University of Waterloo
(Waterloo, ON, Canada)

2017 EIPBN MicroGraph Contest

Micrograph Title:
Beer glass with bubbles

Description:
Negatively tapered pillar on Si.



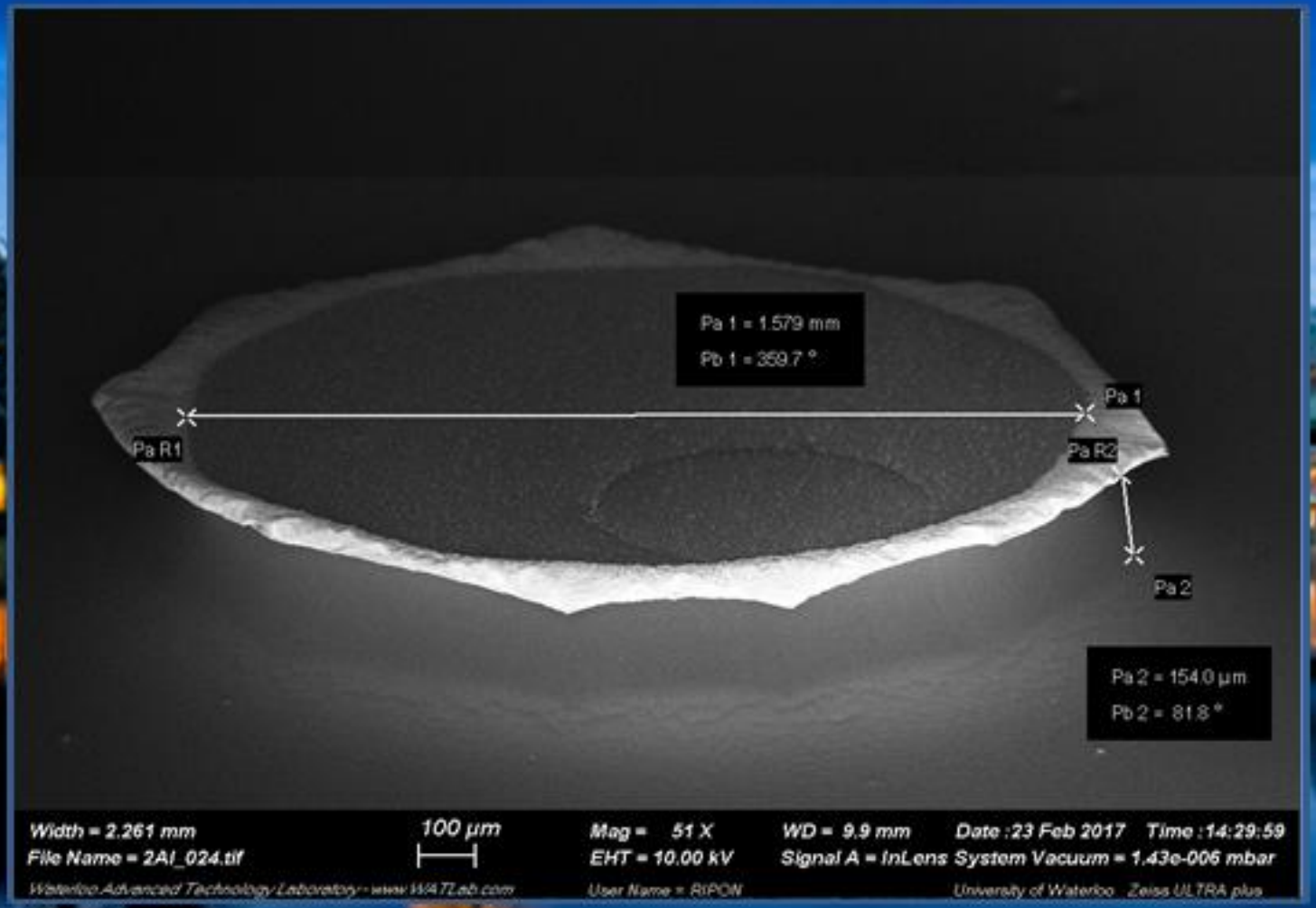
Magnification (3"x4" image): 925 X **Instrument:** Zeiss Ultra SEM

Submitted by: Ripon Dey **Affiliation:** University of Waterloo
(Waterloo, ON, Canada)

2017 EIPBN MicroGraph Contest

Micrograph Title:
Volcano mouth

Description:
Membrane on Si.



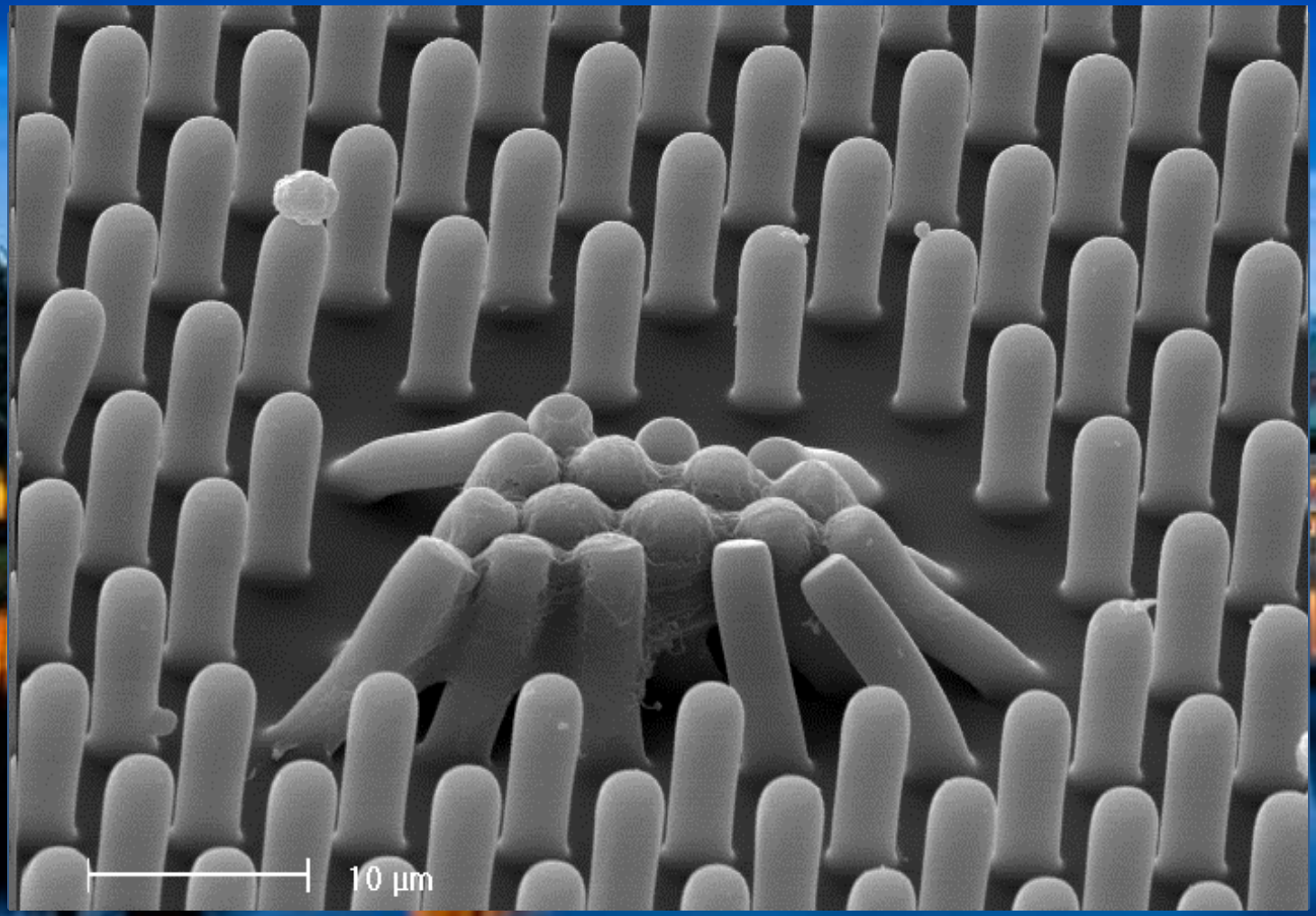
Magnification (3"x4" image): 51X **Instrument:** Zeiss Ultra SEM

Submitted by: Ripon Dey **Affiliation:** University of Waterloo
(Waterloo, ON, Canada)

2017 EIPBN MicroGraph Contest

Micrograph Title:
Crowned king watching Olympic game

Description:
Osteoblast cell seeded on PDMS posts, dehydrated, and coated with gold for SEM imaging.



Magnification (3"x4" image): 2000X

Instrument : Philips XL40 SEM

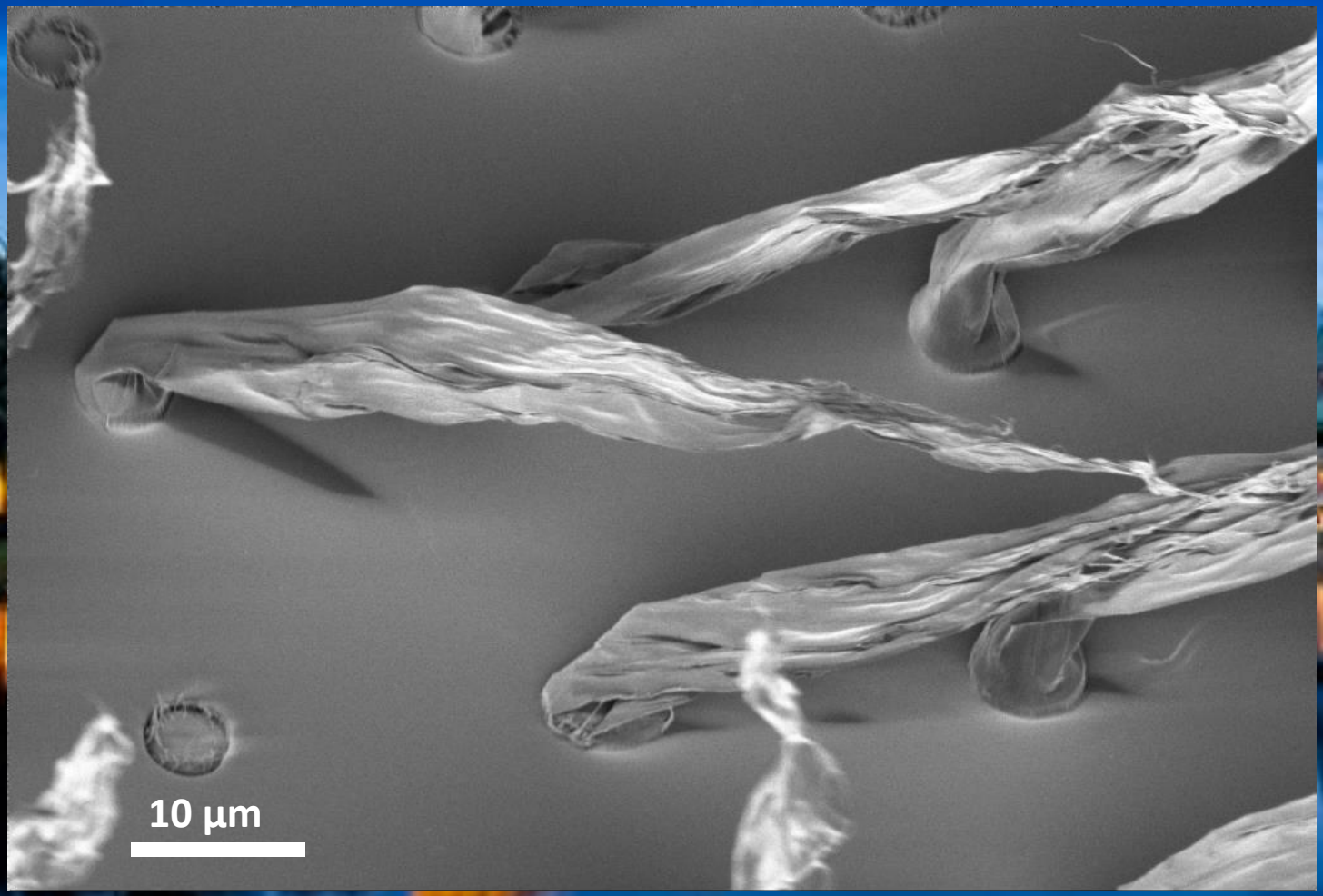
Submitted by: Jianan Hui

Affiliation: City University of Hong Kong
Hong Kong

2017 EIPBN MicroGraph Contest

Poor unfortunate souls

Ursula the sea witch has taken more victims (Disney's The Little Mermaid)

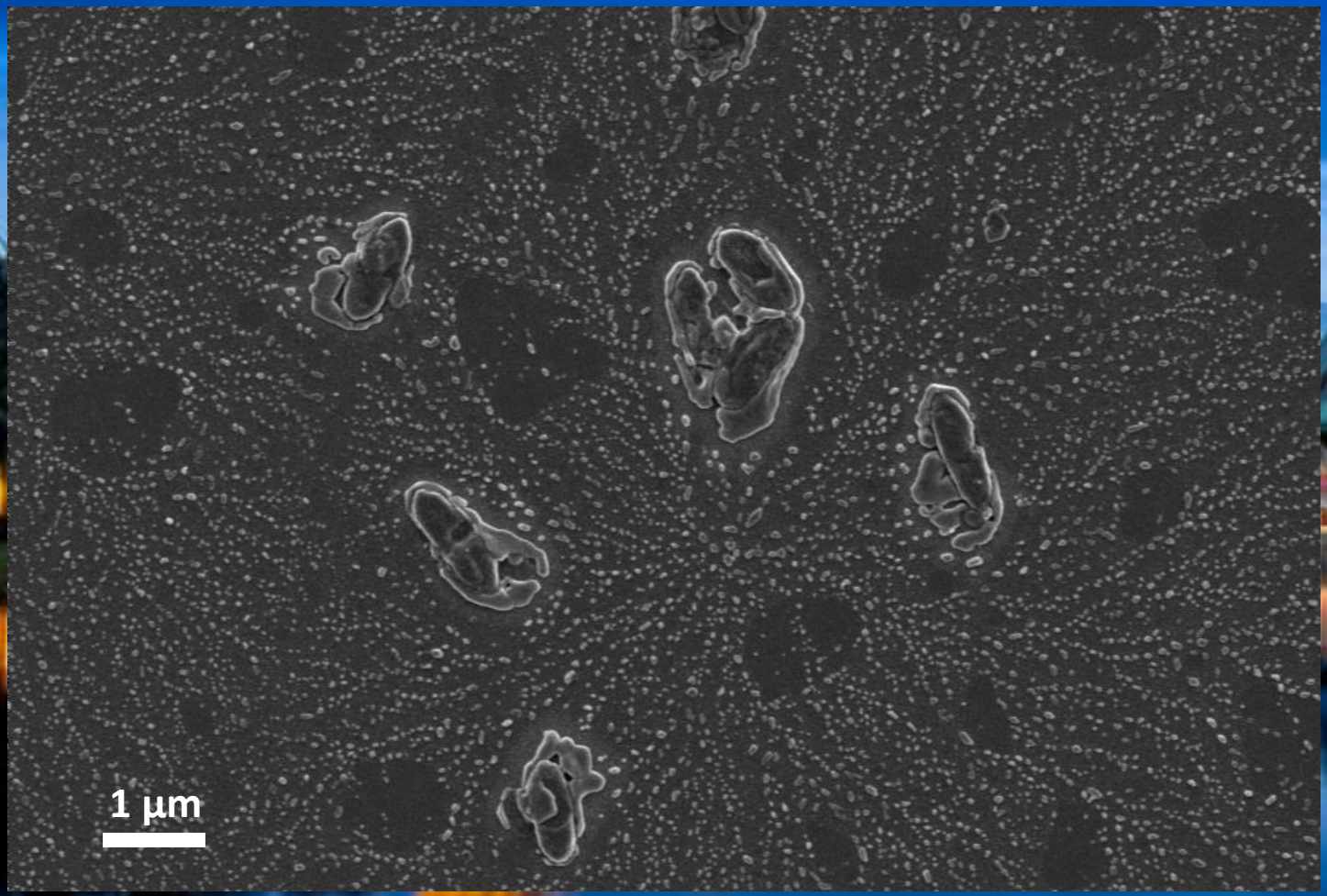


Magnification (3"x4" image): 3.73 KX
Submitted by: Michelle Halsted

Instrument : FEI Novalab 600 Dual-Beam System
Affiliation: Oak Ridge National Lab, Tennessee, North America

2017 EIPBN MicroGraph Contest

Star light, star bright

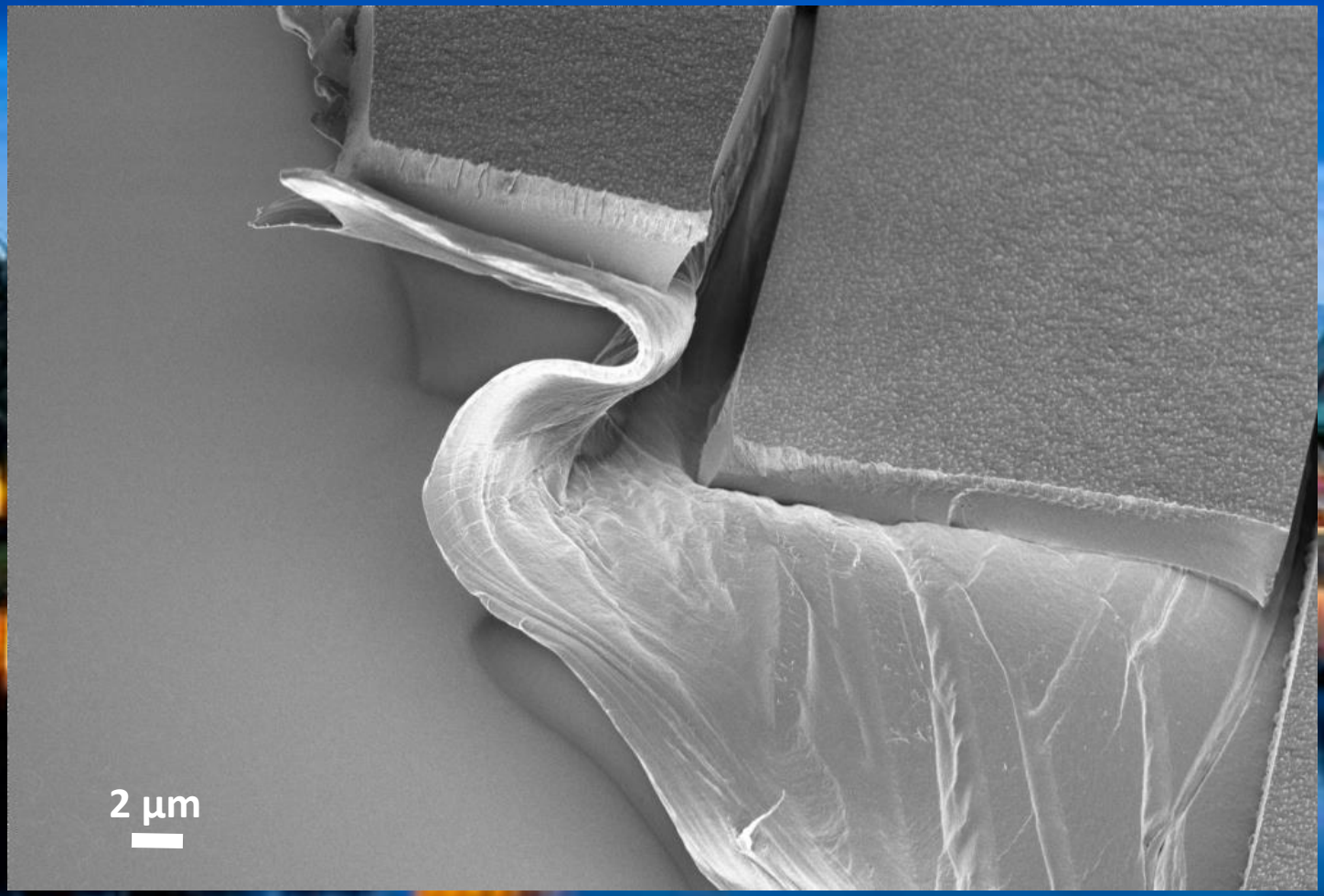


Magnification (3"x4" image): 20.42 KX
Submitted by: Michelle Halsted

Instrument : FEI Novalab 600 Dual-Beam System
Affiliation: Oak Ridge National Lab, Tennessee, North America

2017 EIPBN MicroGraph Contest

Carmel flowing out of chocolate bar



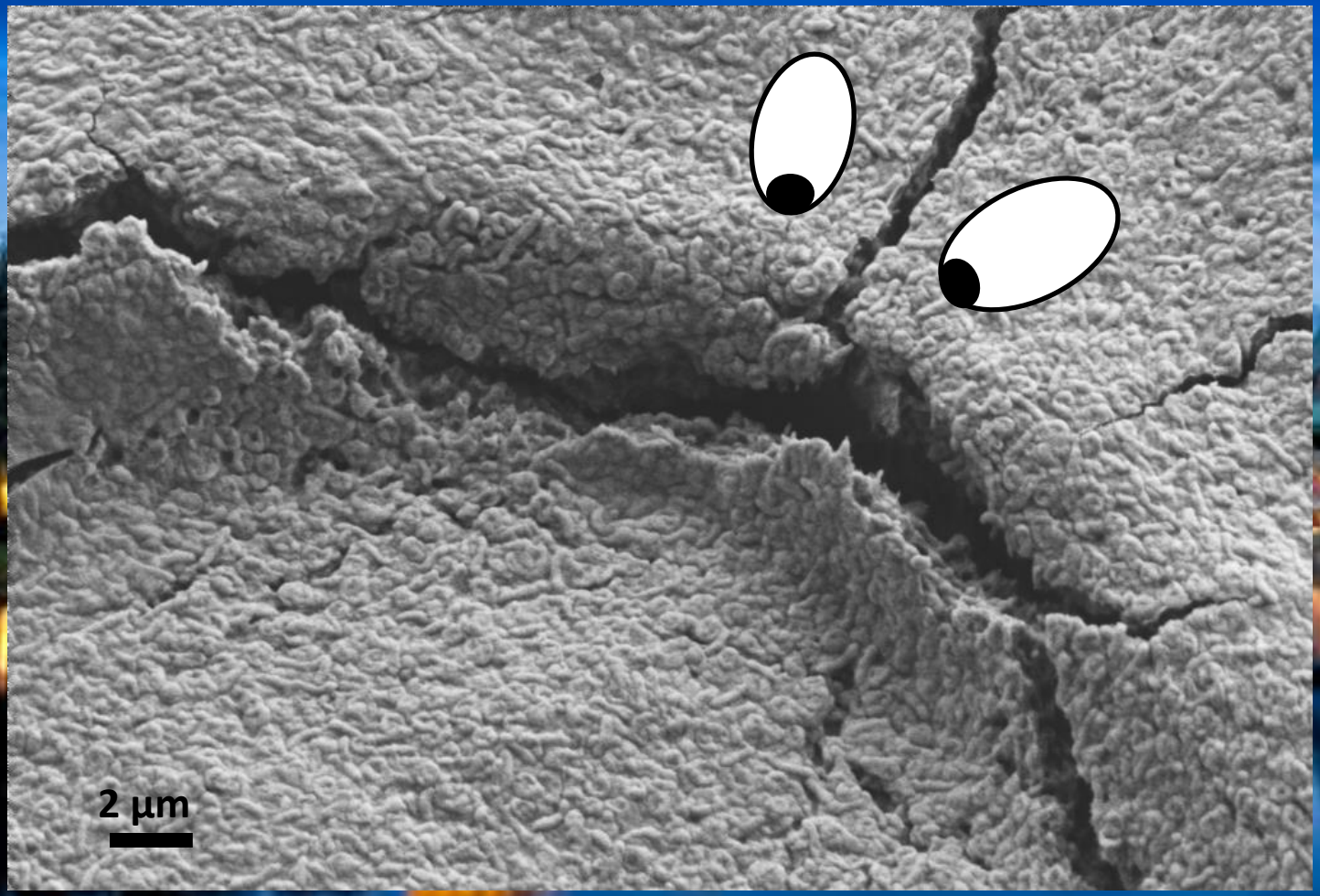
Magnification (3"x4" image): 6.31 KX
Submitted by: Michelle Halsted

Instrument : FEI Novalab 600 Dual-Beam System
Affiliation: Oak Ridge National Lab, Tennessee, North America

2017 EIPBN MicroGraph Contest

Nom nom nom

Biofilm hungry.

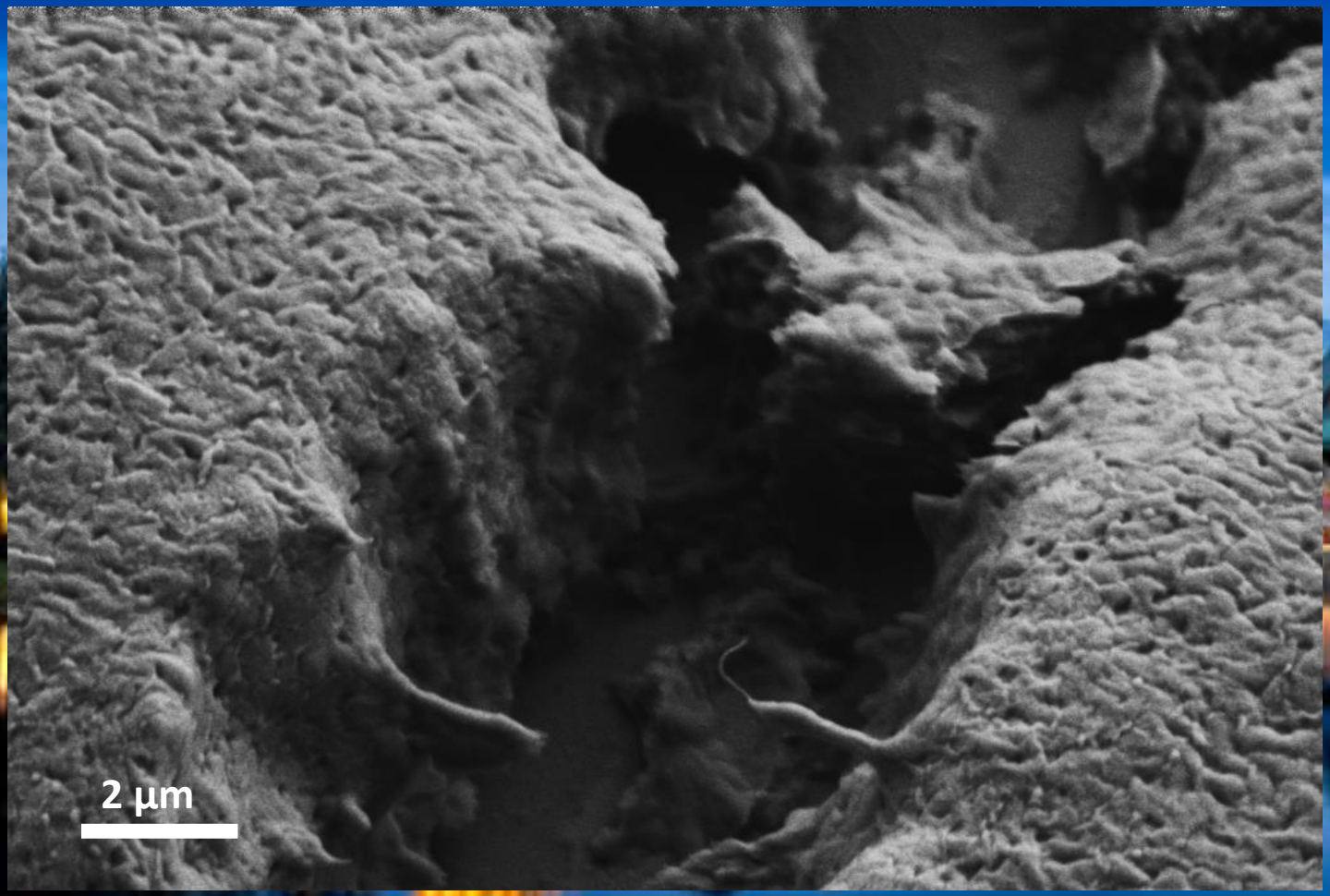


Magnification (3"x4" image): 8.96 KX
Submitted by: Michelle Halsted

Instrument : FEI Novalab 600
Dual-Beam System
Affiliation: Oak Ridge National Lab,
Tennessee, North America

2017 EIPBN MicroGraph Contest

Grab the rope



The *Geobacter sulfurreducens* cell struggles to grab hold of its colony as it throws a rope across the crevasse.

Magnification (3"x4" image): 17.42 KX
Submitted by: Michelle Halsted

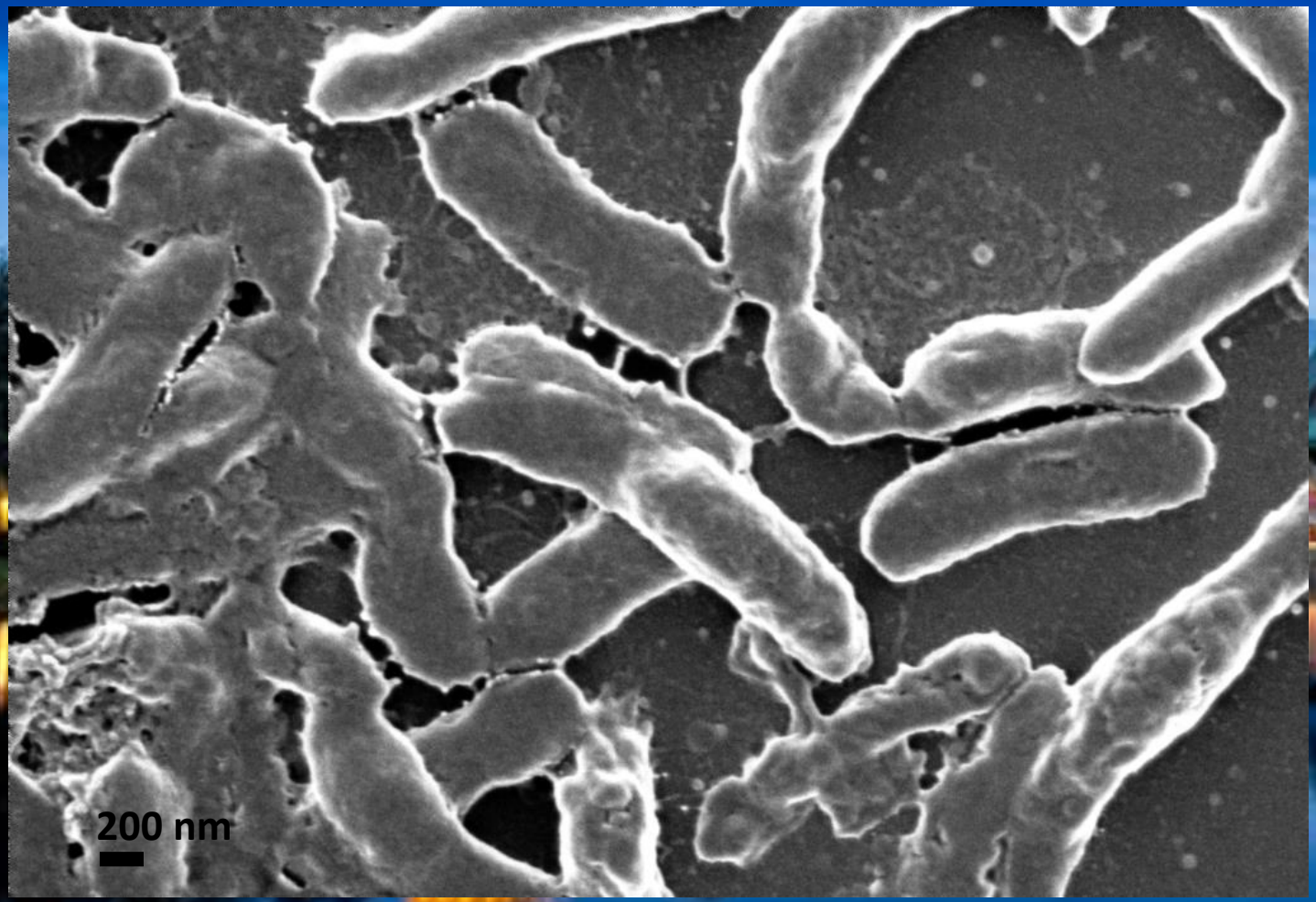
Instrument : FEI Novalab 600 Dual-Beam System
Affiliation: Oak Ridge National Lab, Tennessee, North America

2017 EIPBN MicroGraph Contest

30

IT'S ALIVE

The Frankenstein Biofilm- *Geobacter sulfurreducens* forms electrically conductive biofilms. Here we see appendages extending from cells.



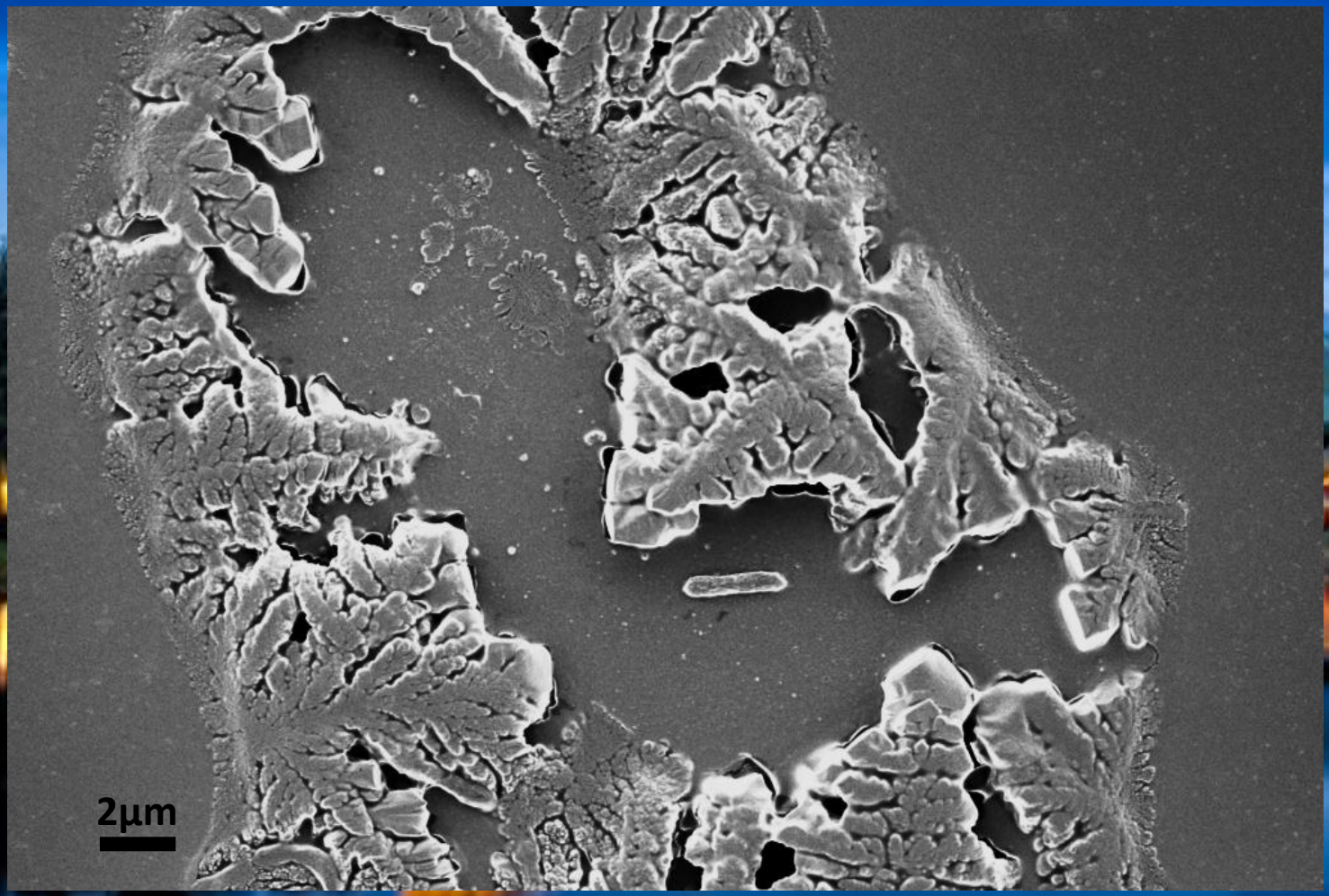
Magnification (3"x4" image): 51.13 KX
Submitted by: Michelle Halsted

Instrument : FEI Novalab 600 Dual-Beam System
Affiliation: Oak Ridge National Lab, Tennessee, North America

2017 EIPBN MicroGraph Contest

Lost in the Woods

A lone *Geobacter sulfurreducens* cell has been separated from its colony.



Magnification (3"x4" image): 8.59 KX

Submitted by: Michelle Halsted

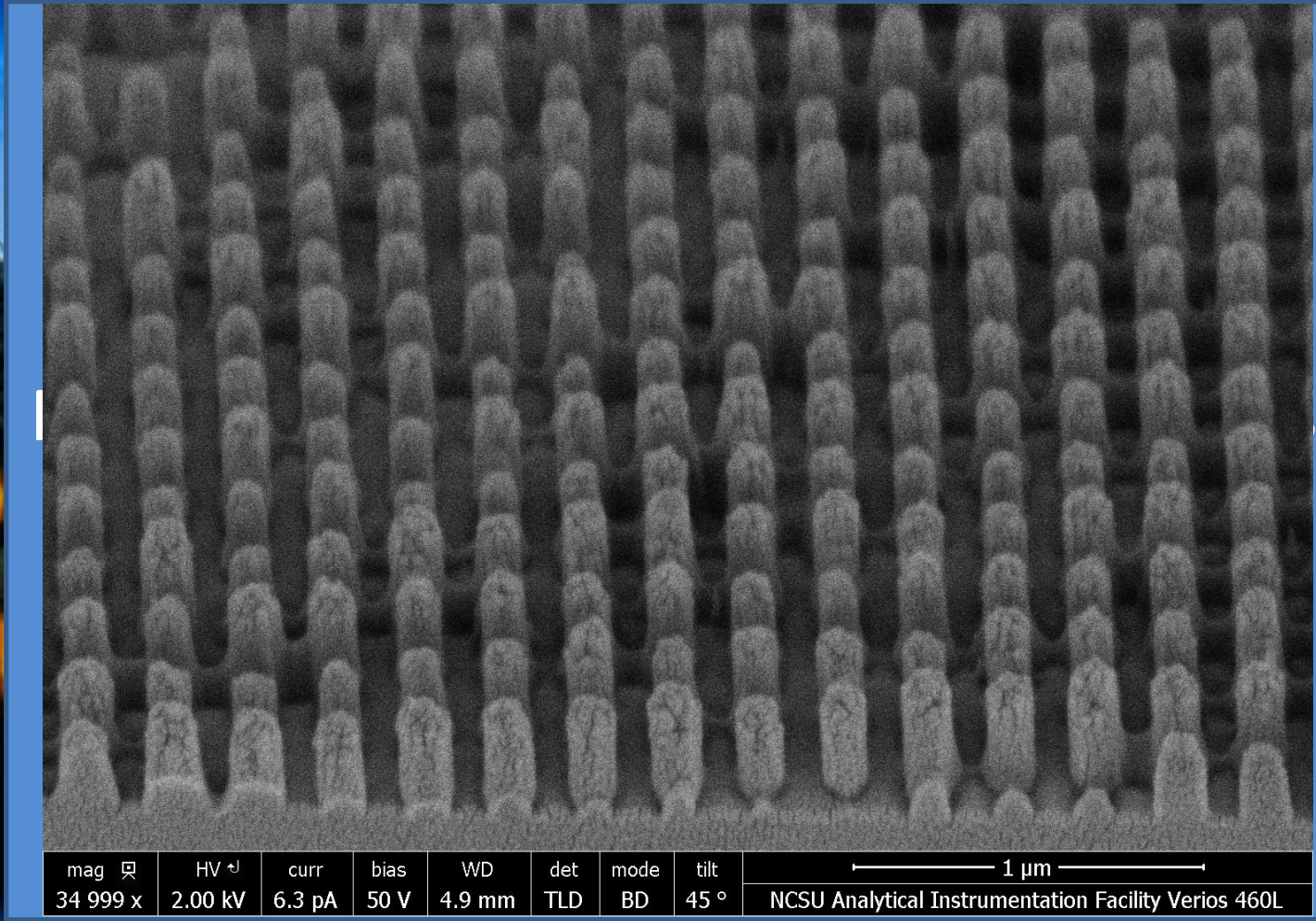
Instrument : FEI Novalab 600 Dual-Beam System

Affiliation: Oak Ridge National Lab, Tennessee, North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Next Generation Glass

Description:
It's a prototype for next generation glass which can suppress iridescence.



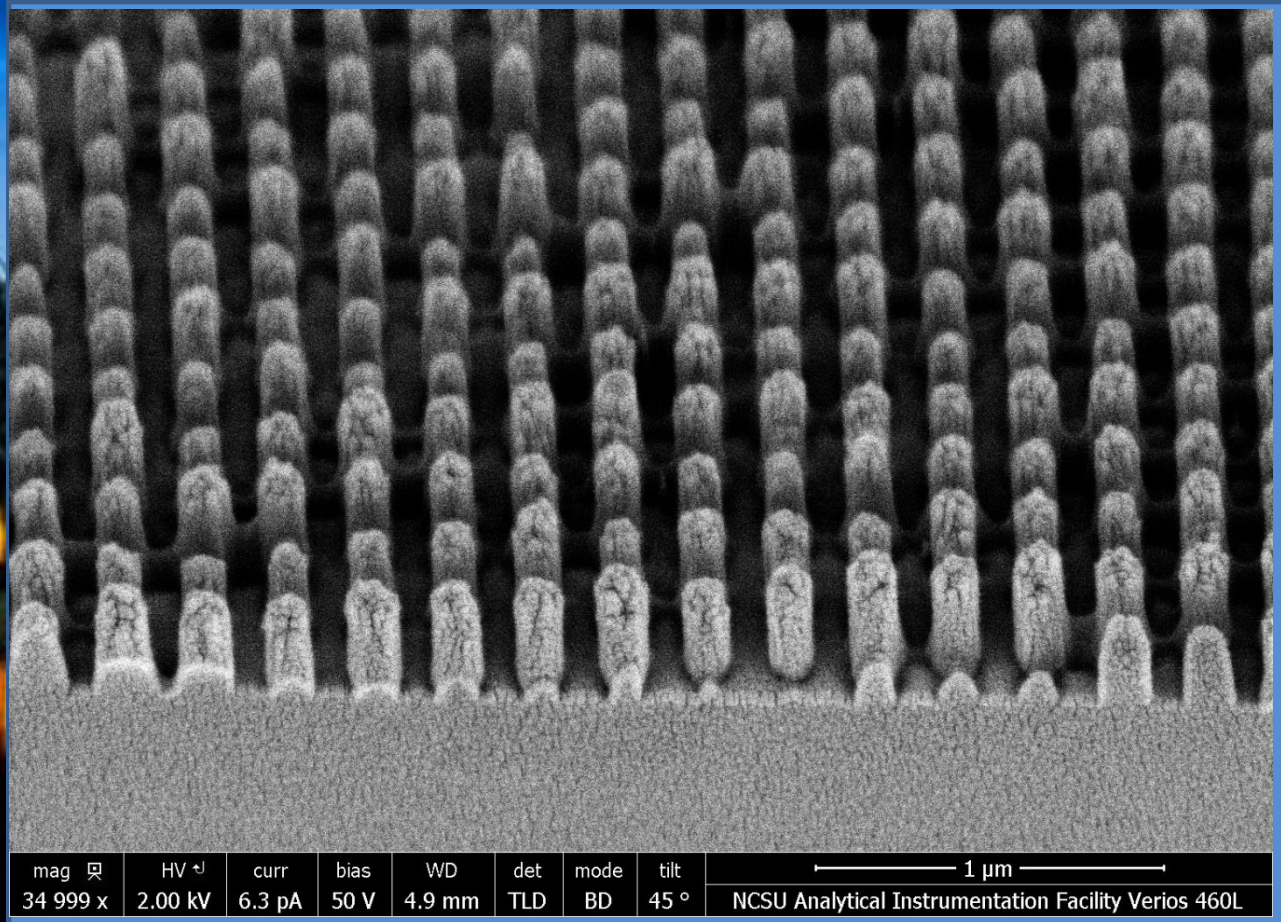
Magnification (3"x4" image): 35KX
Submitted by: Yi-An Chen

Instrument : FEI Verios 460L
Affiliation: North Carolina State Univ.
Notrh Carolina America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Next Generation Glass

Description:
It's a prototype for next generation glass which can suppress iridescence.



this

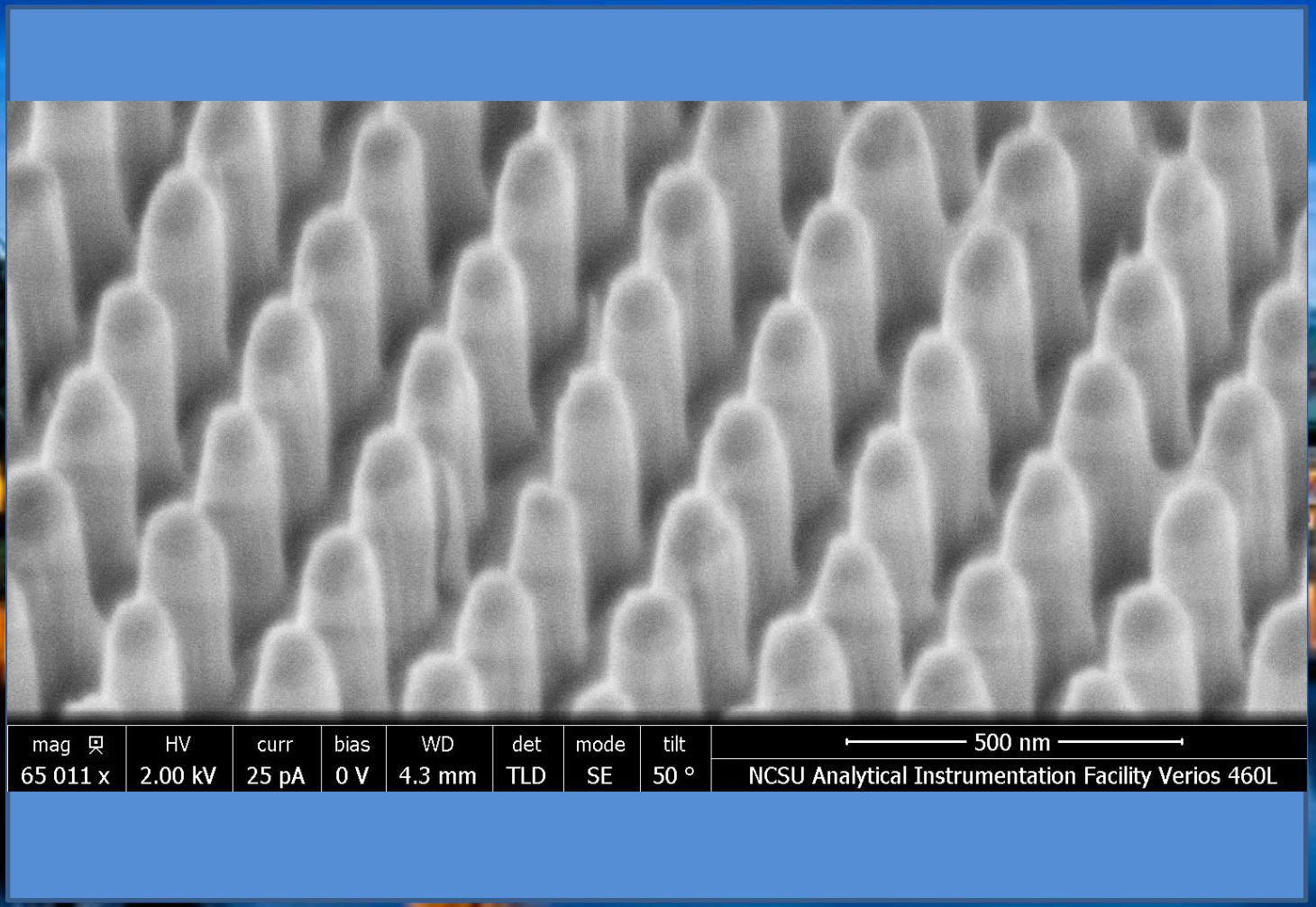
Magnification (3"x4" image): 35KX
Submitted by: Yi-An Chen

Instrument : FEI Verios 460L
Affiliation: North Carolina State Univ.
Notrh Carolina America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Next Generation Glass

Description:
It's a combination of Art and Science.

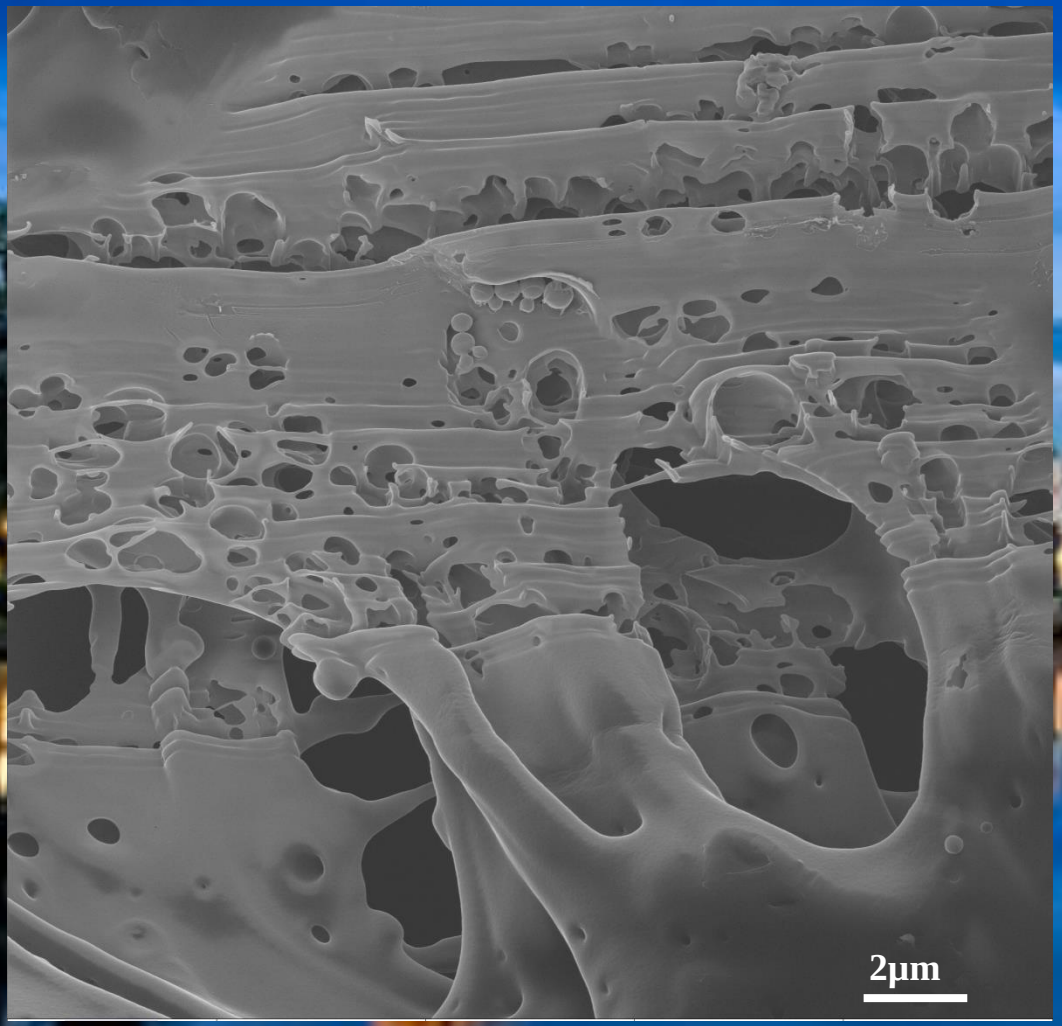


Magnification (3"x4" image): 65KX
Submitted by: Yi-An Chen

Instrument : FEI Verios 460L
Affiliation: North Carolina State Univ.
Notrh Carolina America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Natural Corrosion



Description:
Ages of forces of rain, wind and earthquake vibration lead to such surface (membrane filter).

Magnification (3"x4" image): 5.7KX

Submitted by: Deying Xia

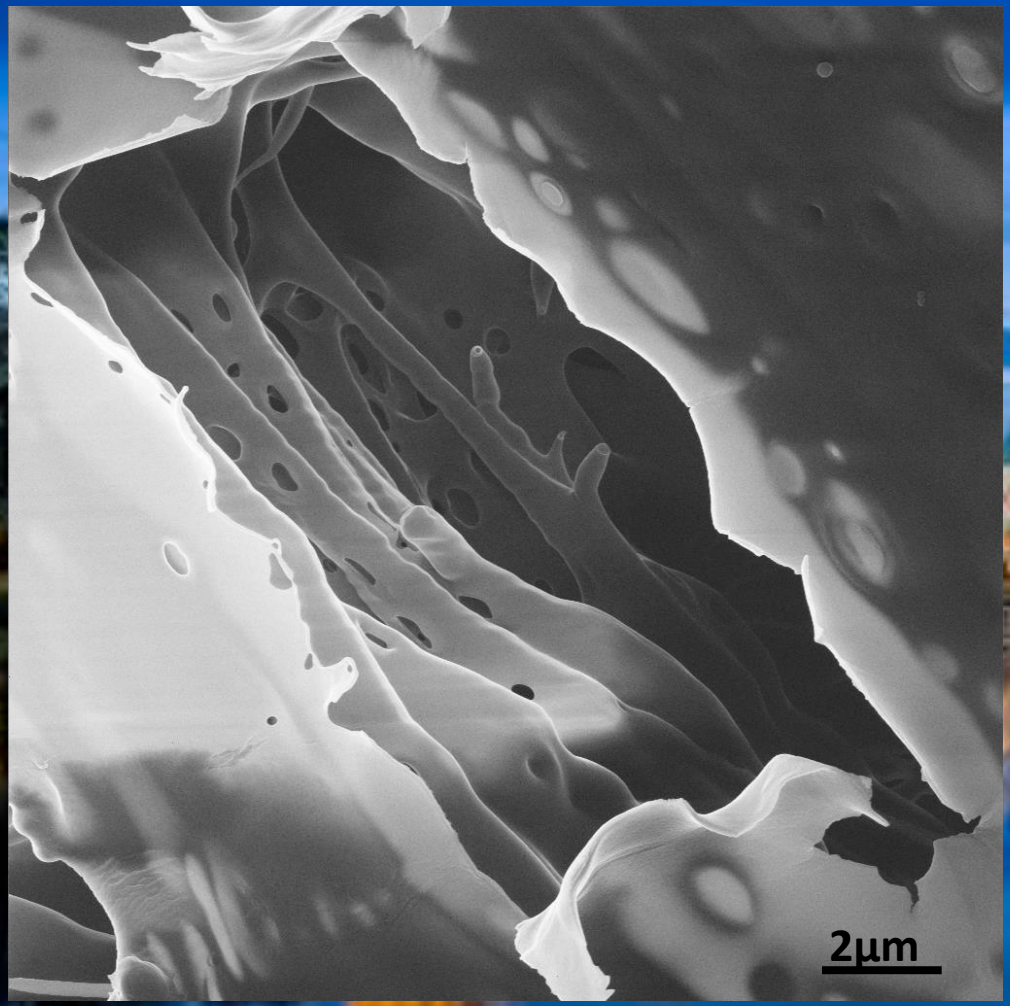
Instrument : Zeiss Orion NanoFab

Affiliation: Carl Zeiss Microscopy, LLC
Peabody, MA, USA

2017 EIPBN MicroGraph Contest

Micrograph Title:
Sunshine on Unexplored Micro-cave

Description:
Pores on membrane filter

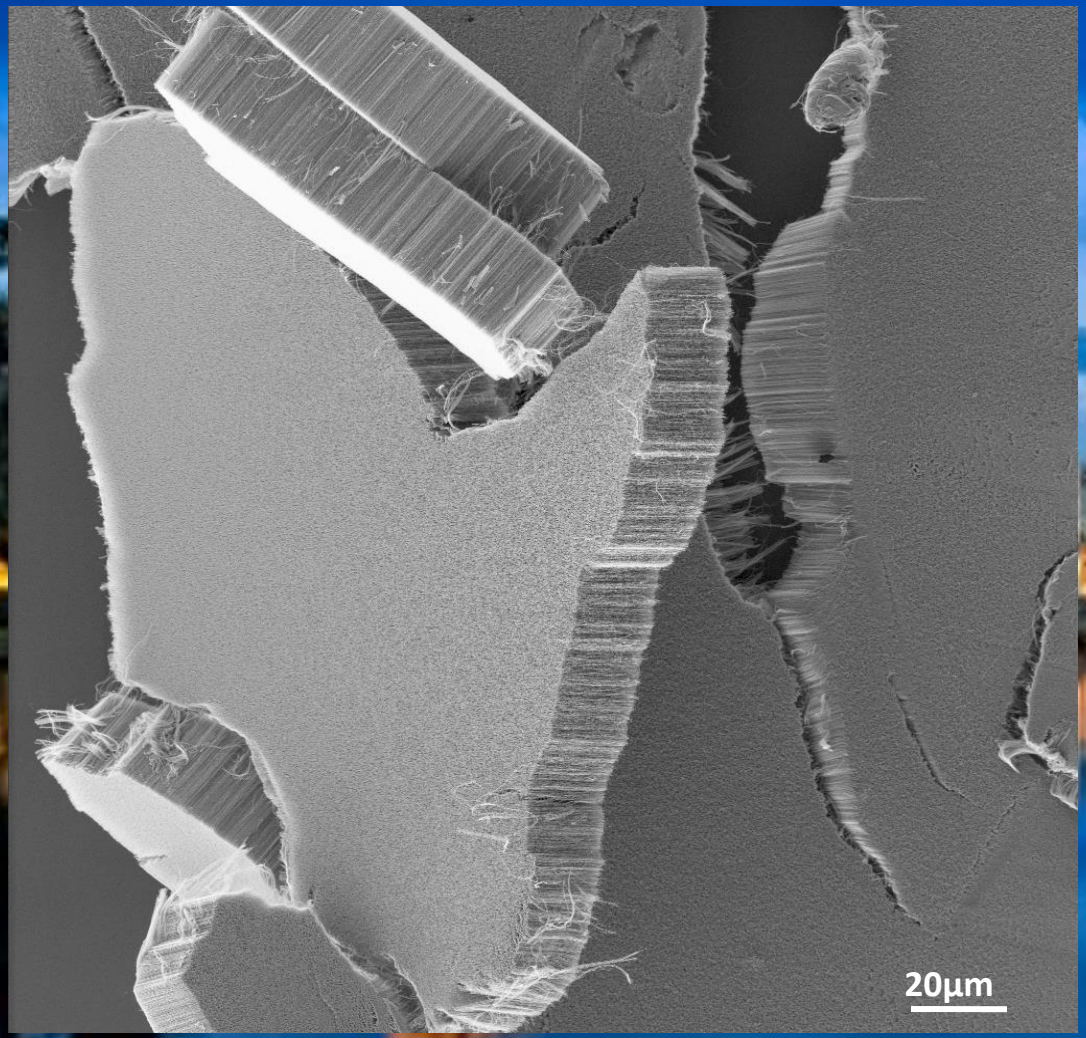


Magnification (3"x4" image): 6.7KX
Submitted by: Deying Xia

Instrument : Zeiss Orion NanoFab
Affiliation: Carl Zeiss Microscopy, LLC
Peabody, MA, USA

2017 EIPBN MicroGraph Contest

Micrograph Title:
Earth Quake



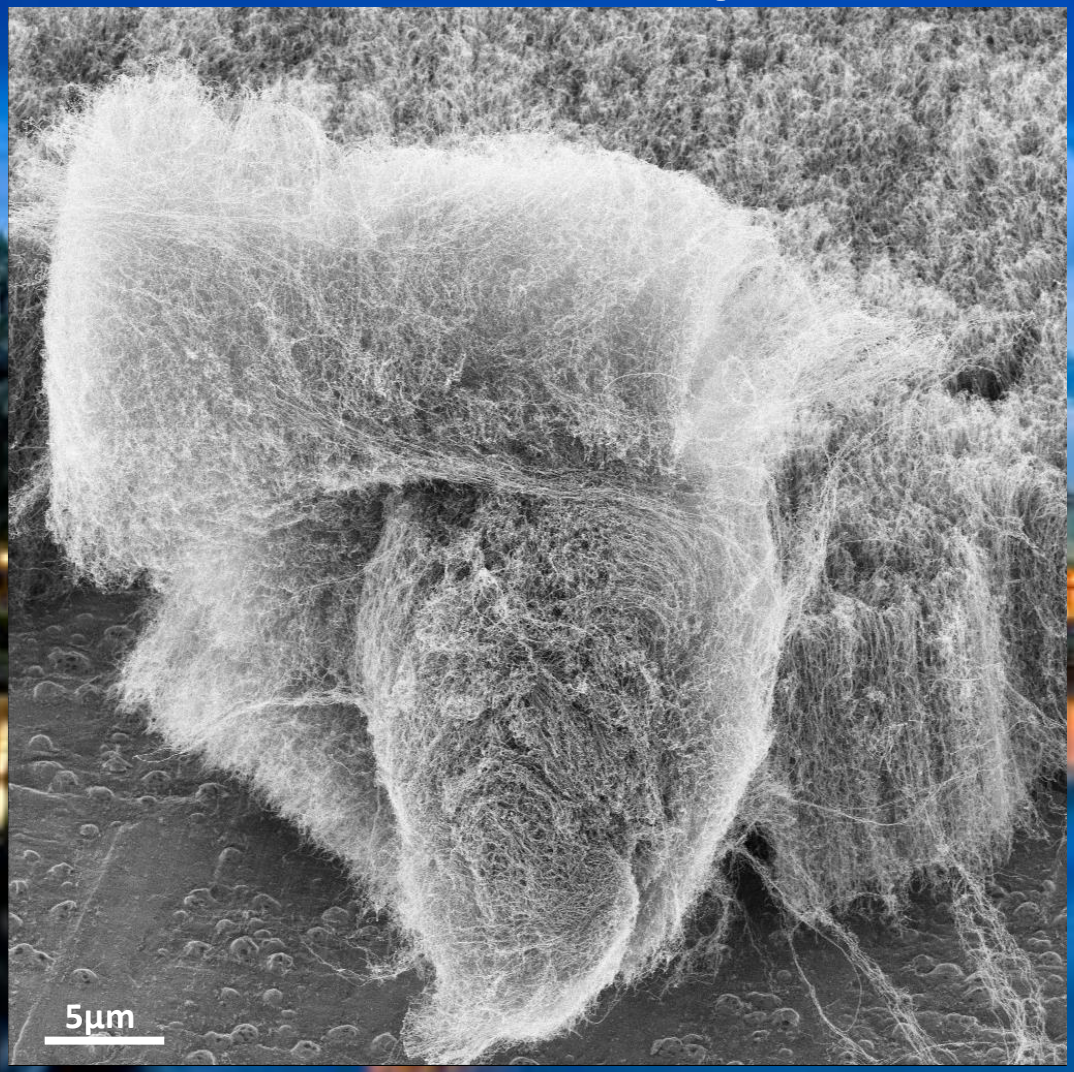
Description:
Collapsed vertical-growth carbon nanotubes.

Magnification (3"x4" image): 500X
Submitted by: Deying Xia

Instrument : Zeiss Orion NanoFab
Affiliation: Carl Zeiss Microscopy, LLC
Peabody, MA, USA

2017 EIPBN MicroGraph Contest

Micrograph Title:
Cotton Candy or Trump Toupee



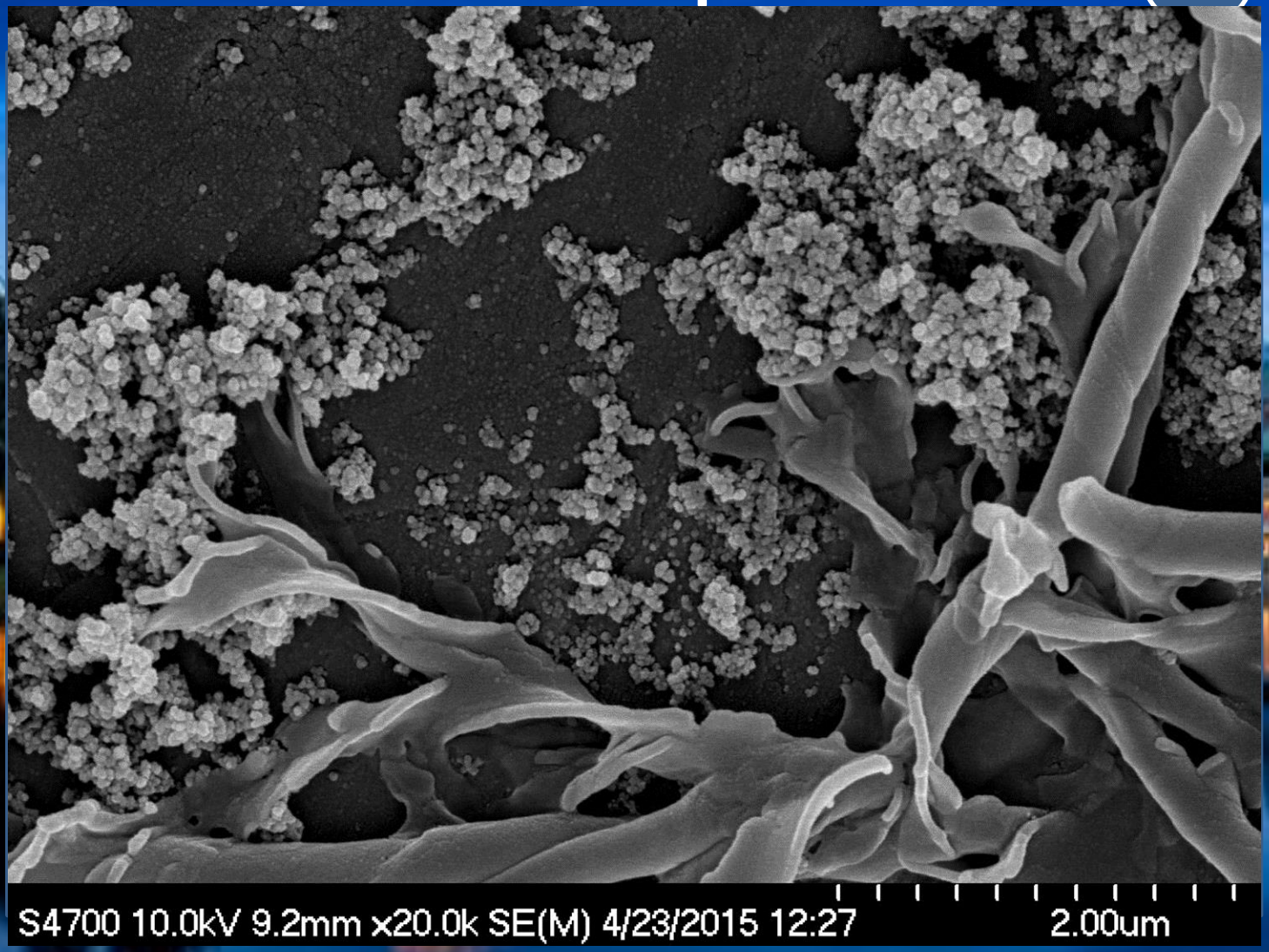
Description:
Made of carbon nanotubes.

Magnification (3"x4" image): 2.8KX
Submitted by: Deying Xia

Instrument : Zeiss Orion NanoFab
Affiliation: Carl Zeiss Microscopy, LLC
Peabody, MA, USA

2017 EIPBN MicroGraph Contest

Micrograph Title:
Twisted Metal



Description:
Iron-doped apatite nanoparticles dispersed amongst unknown inclusions.

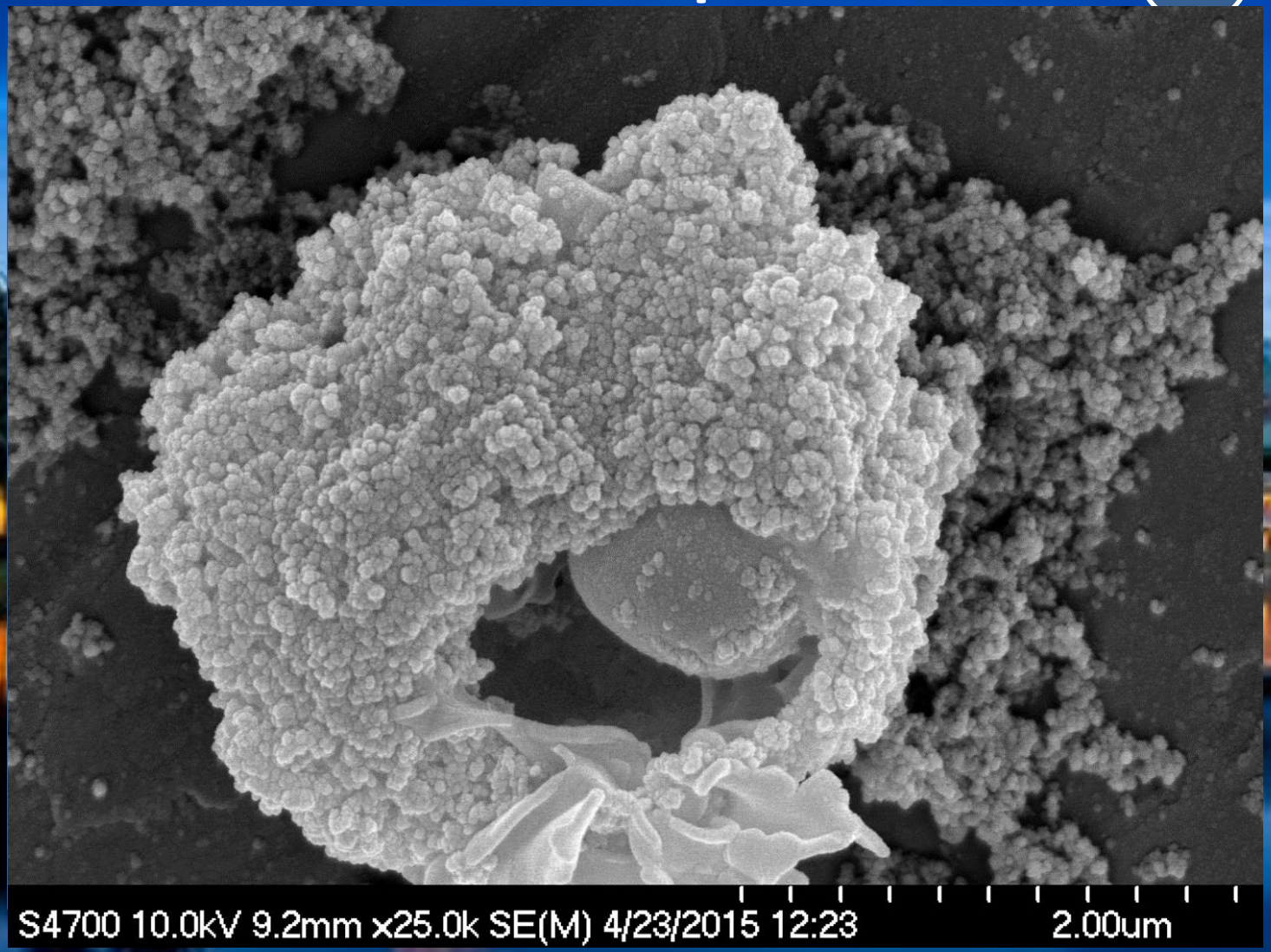
Magnification (3"x4" image): 20KX **Instrument :** Hitachi S4700

Submitted by: Jessica M. Andriolo **Affiliation:** Montana Tech, Montana, North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Ouroboros

Description:
Iron-doped apatite nanoparticles agglomerated to an unknown inclusion in the sample, which then surrounds a single *Staphylococcus aureus* cell.



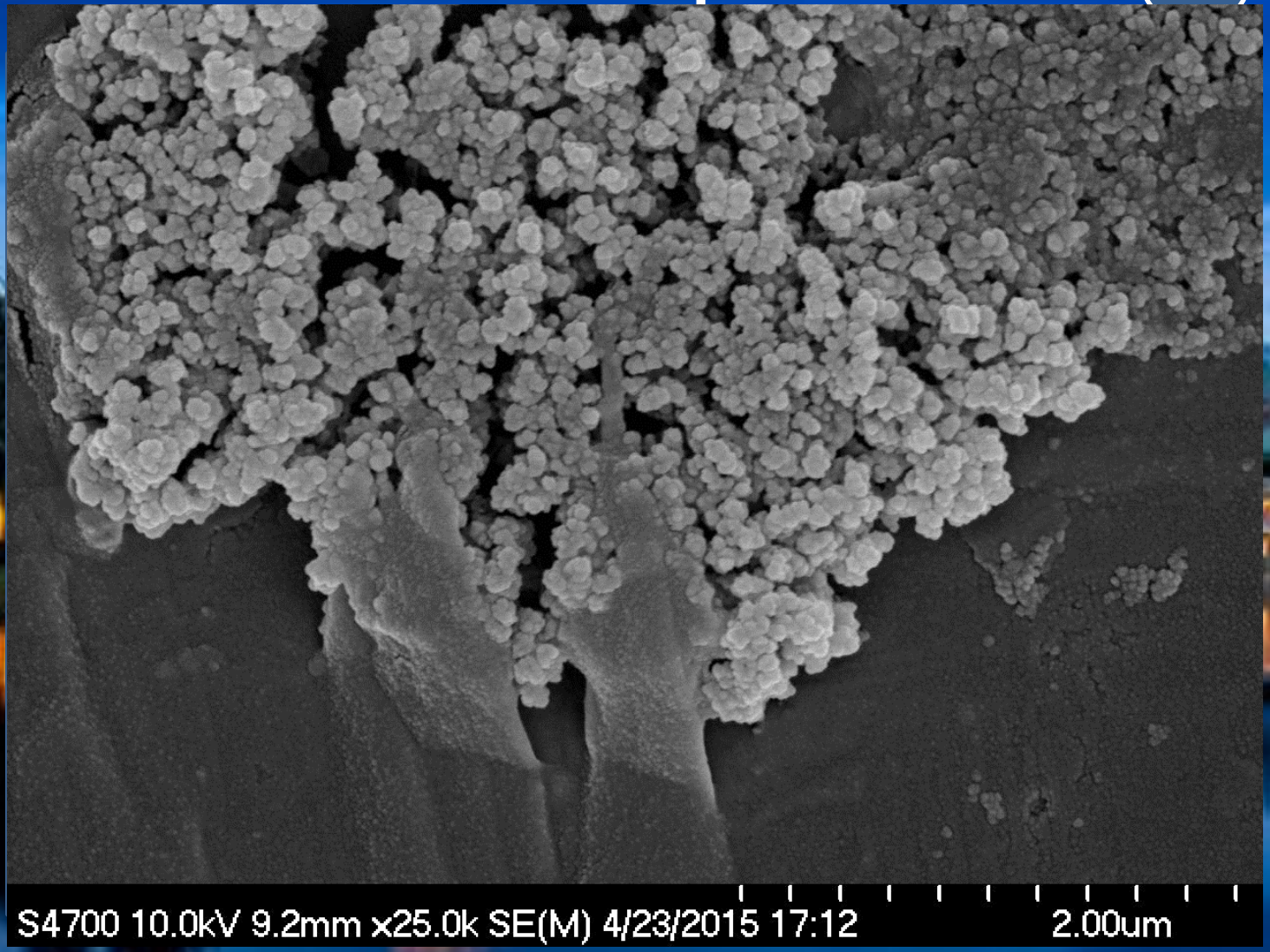
Magnification (3"x4" image): 25KX **Instrument : Hitachi S4700**

Submitted by: Jessica M. Andriolo **Affiliation: Montana Tech, Montana, North America**

2017 EIPBN MicroGraph Contest

Micrograph Title:
Brownian Trees

Description:
Iron-doped apatite nanoparticles dispersed amongst unknown inclusions.



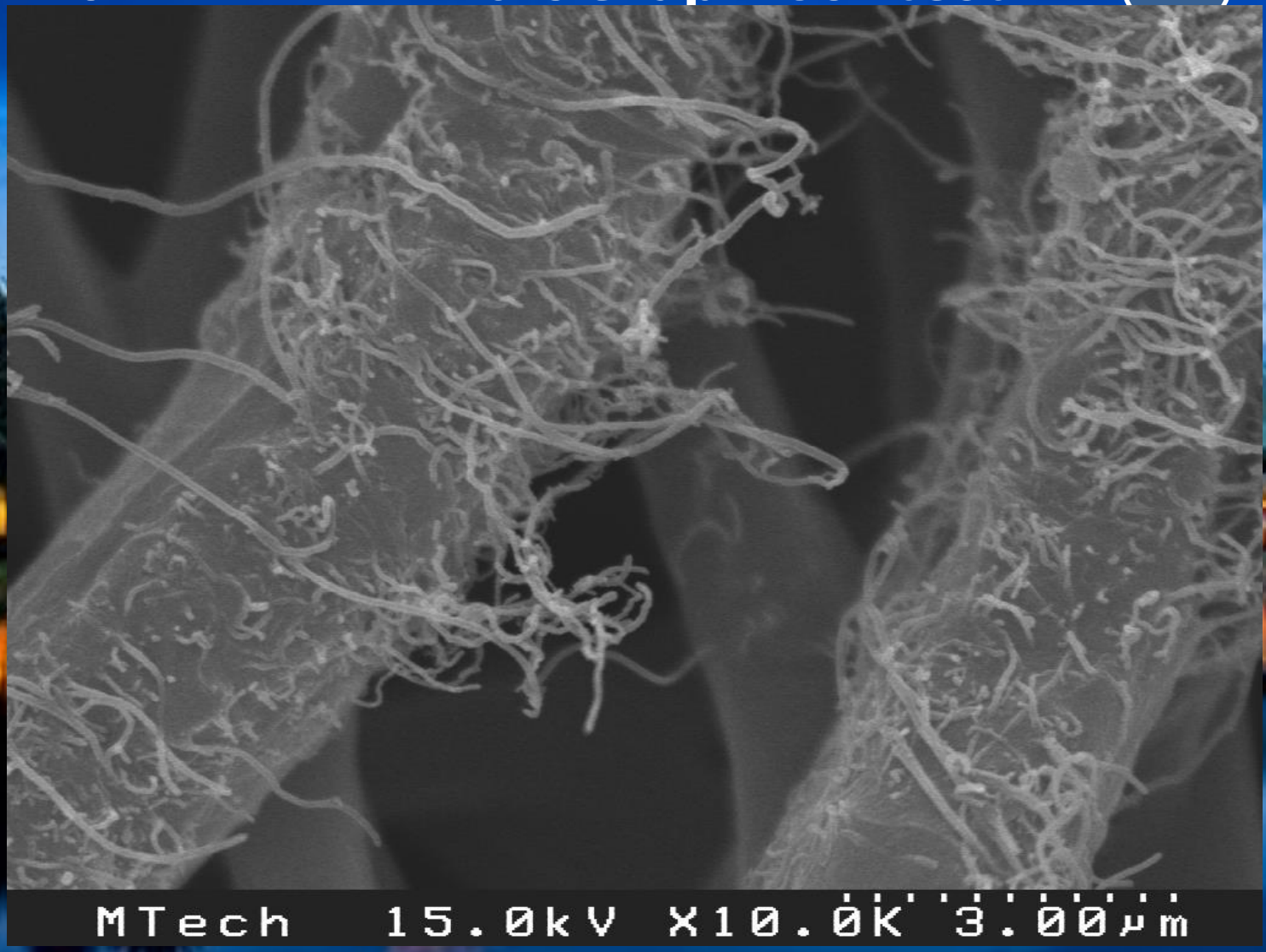
Magnification (3"x4" image): 25KX **Instrument :** Hitachi S4700

Submitted by: Jessica M. Andriolo **Affiliation:** Montana Tech, Montana, North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
No Shave December

Description:
Polycaprolactone, electrospun fibers spin coated with multi-walled carbon nanotubes.

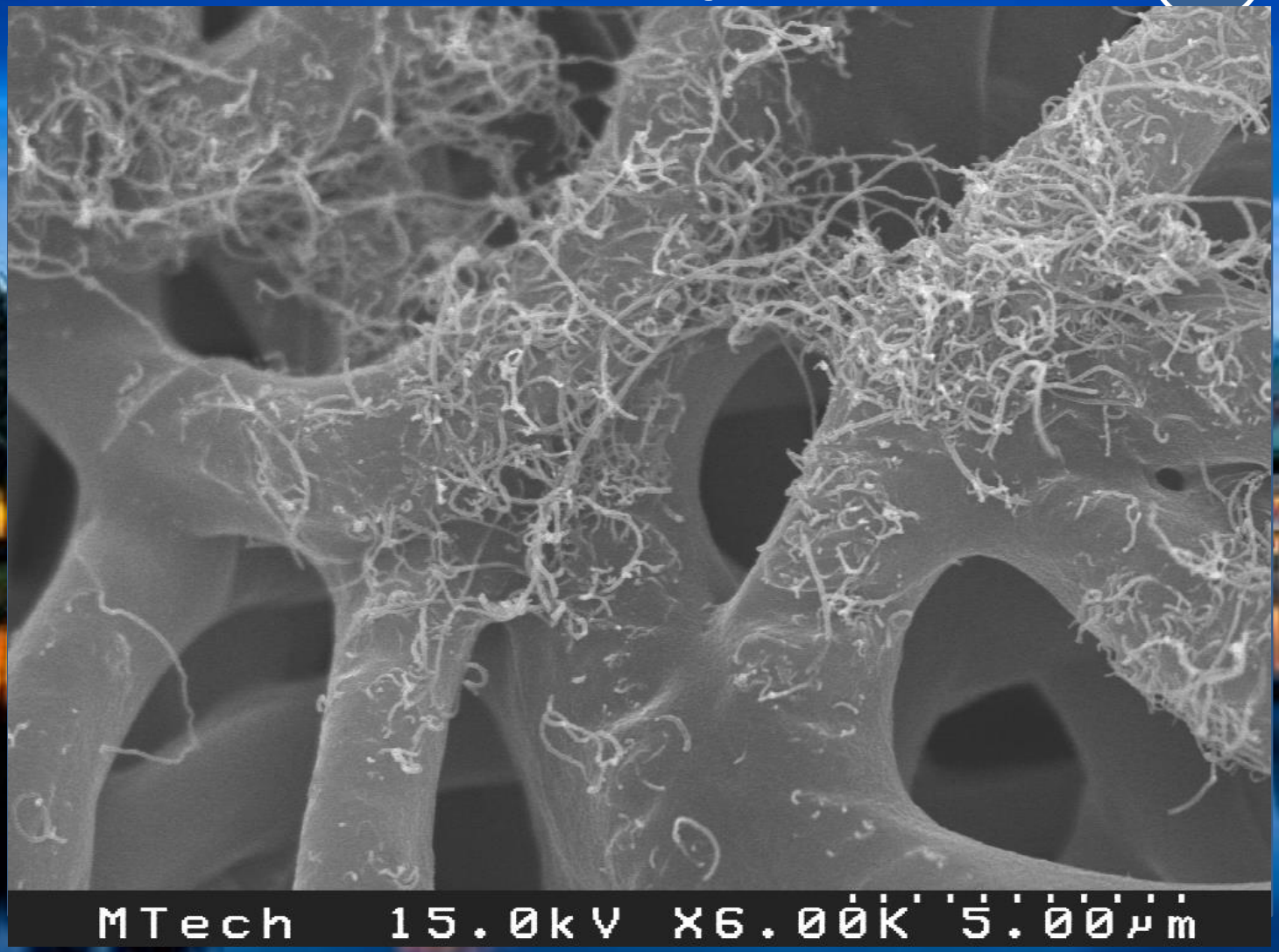


Magnification (3"x4" image): 10KX **Instrument :** Hitachi S4500

Submitted by: Jessica M. Andriolo **Affiliation:** Montana Tech, Montana, North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Truffula Trees



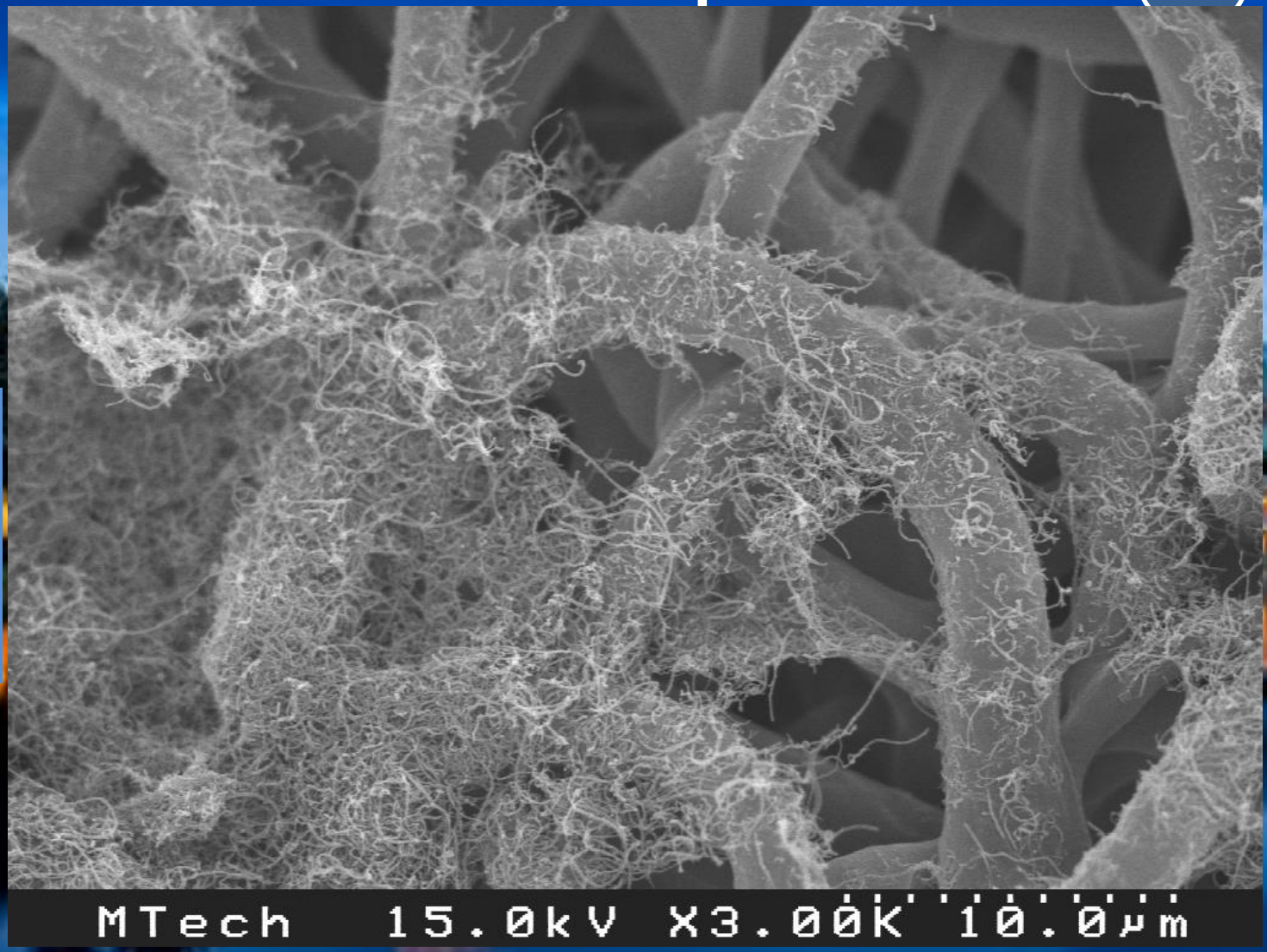
Description:
Polycaprolactone, electrospun fibers spin coated with multi-walled carbon nanotubes.

Magnification (3"x4" image): 6KX **Instrument :** Hitachi S4500

Submitted by: Jessica M. Andriolo **Affiliation:** Montana Tech, Montana, North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Mossy Vines



Description:
Polycaprolactone, electrospun fibers spin coated with multi-walled carbon nanotubes.

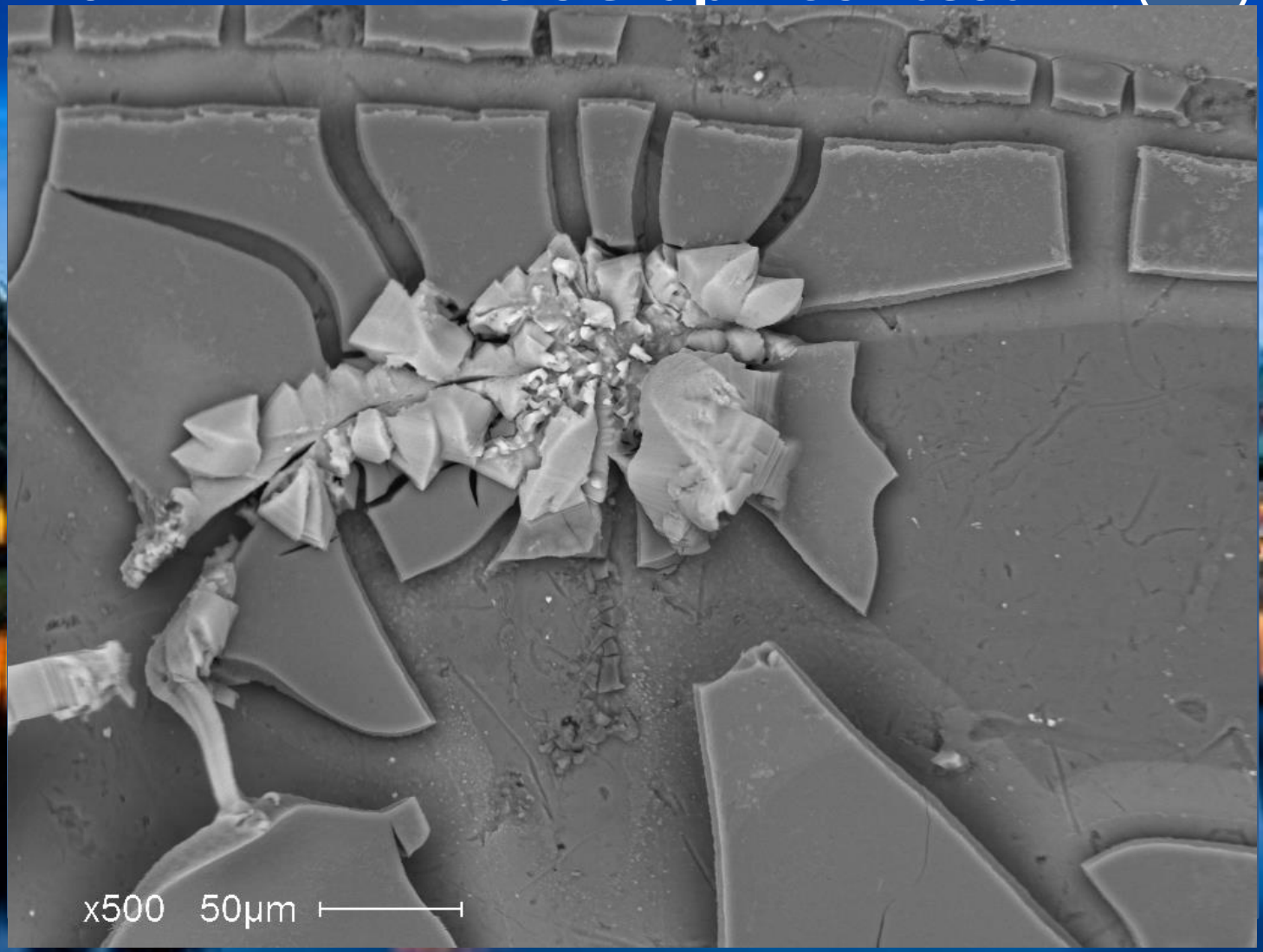
Magnification (3"x4" image): 3KX **Instrument :** Hitachi S4500

Submitted by: Jessica M. Andriolo **Affiliation:** Montana Tech, Montana, North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
CRACK

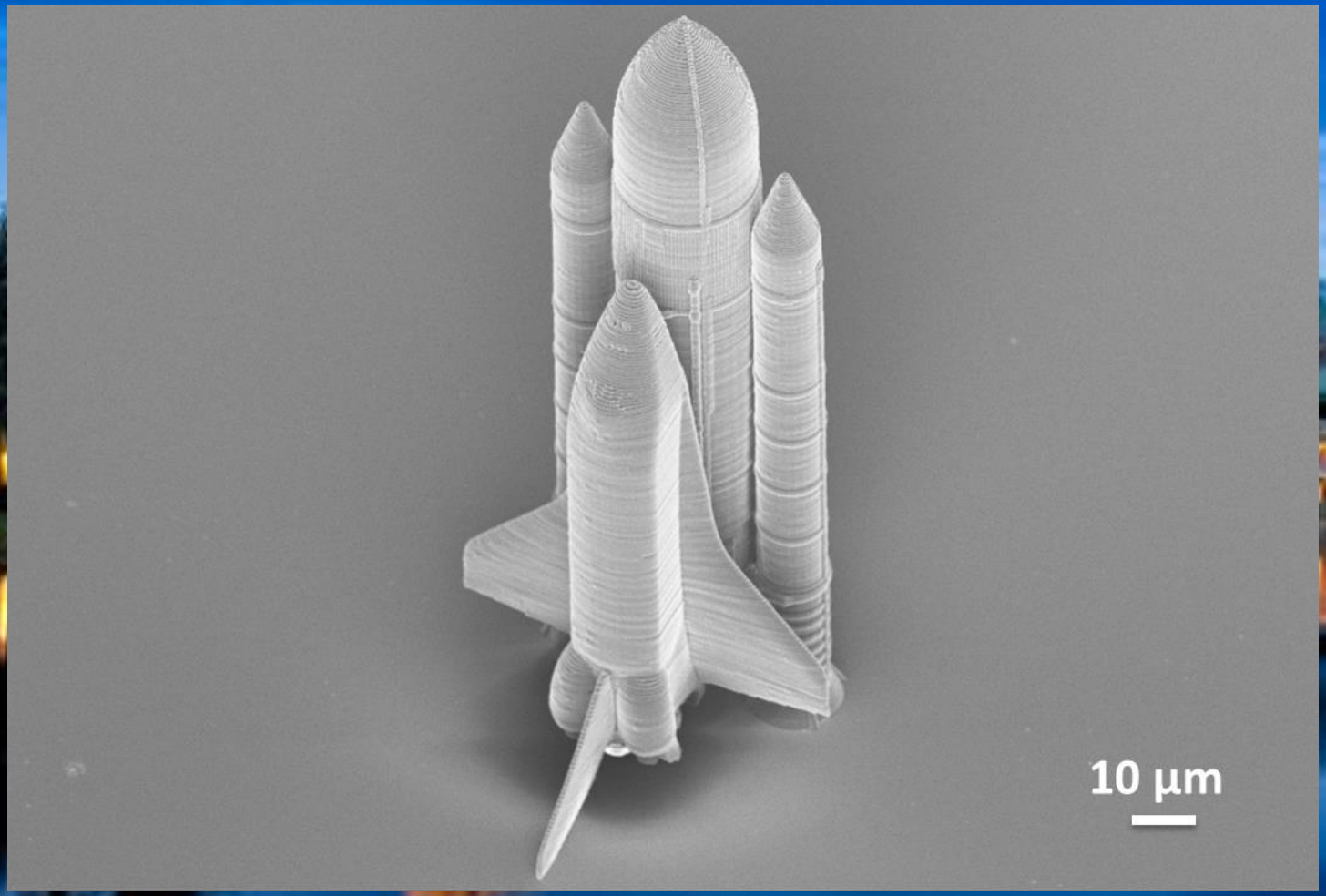
Description:
Crystallization of un-incorporated potassium chloride after drying of iron-doped apatite nanoparticles.



Magnification (3"x4" image): 500X
Instrument : LEO 1430 VP
Submitted by: Jessica M. Andriolo
Affiliation: Montana Tech, Montana, North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Nano-Space Shuttle



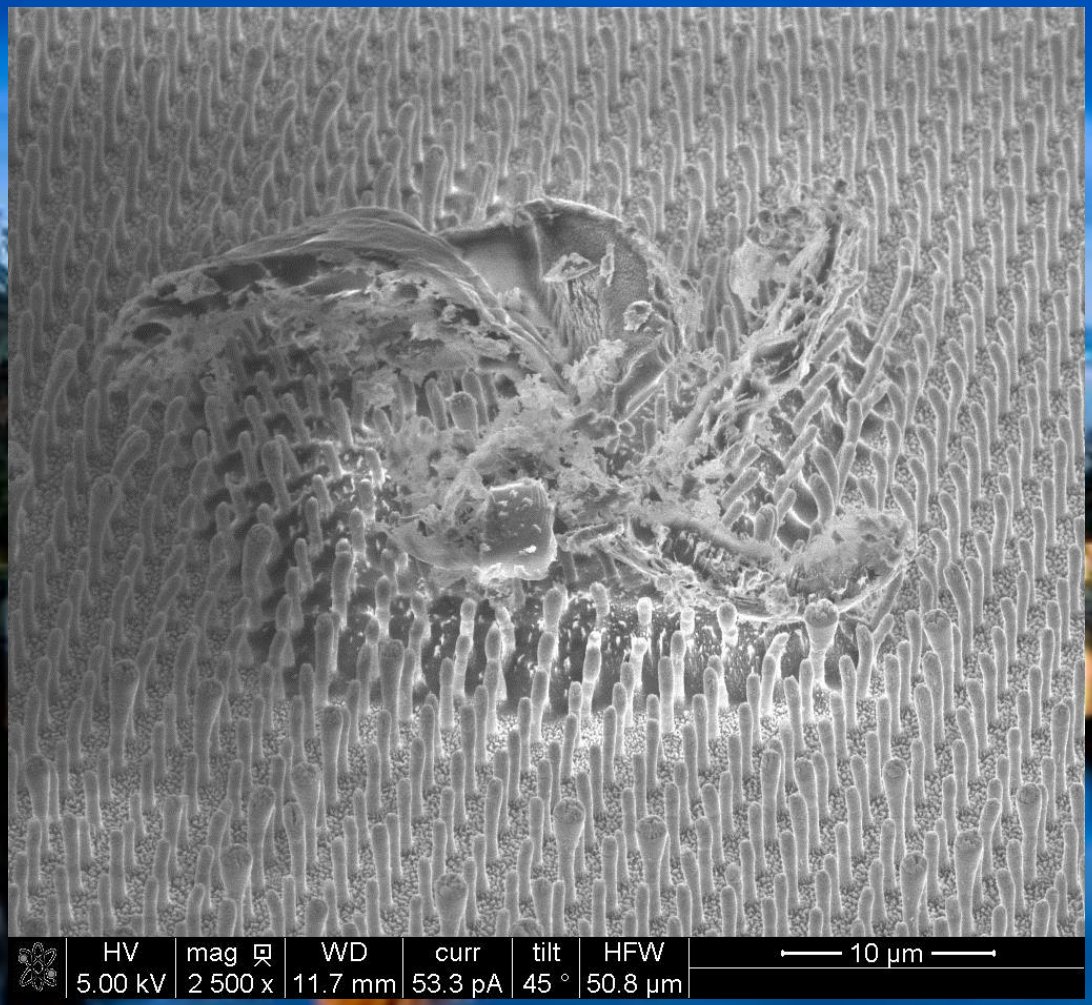
Description:
Two-photon polymerization based 3D space shuttle along with fuel tank and two booster rockets and all required connections at nanoscale.

Magnification (3"x4" image): 596X
Instrument : Zeiss ULTRA-55 FEG SEM

Submitted by: Dr. Debashis Chanda
Affiliation: Univ. of Central Florida
Florida, North America

2017 EIPBN MicroGraph Contest

Iris tectorum



Description:
A defect left among magnetic elastomer pillars after the Reactive Ion Etching for SU8 template.

Magnification (3"x4" image): 2.5 KX

Instrument : FEI Quanta 3D FEG

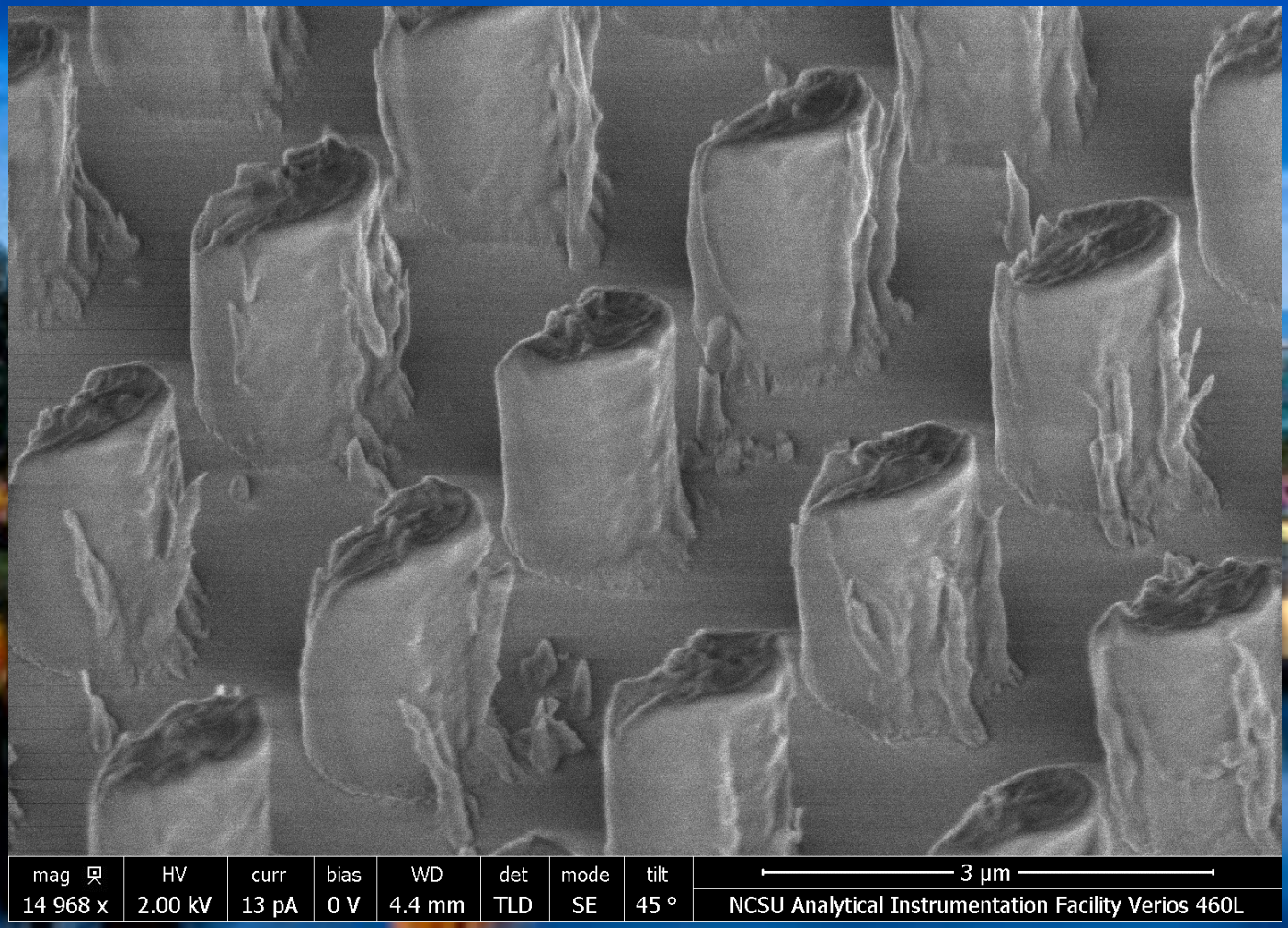
Submitted by: Zhiren Luo

Affiliation: North Carolina State Univ.
Raleigh, NC

2017 EIPBN MicroGraph Contest

Burning Candles

Description:
Oxidized PDMS pillar array after SU8 mold was etched away by RIE process with high RIE and ICP power.



Magnification (3"x4" image): 15 KX

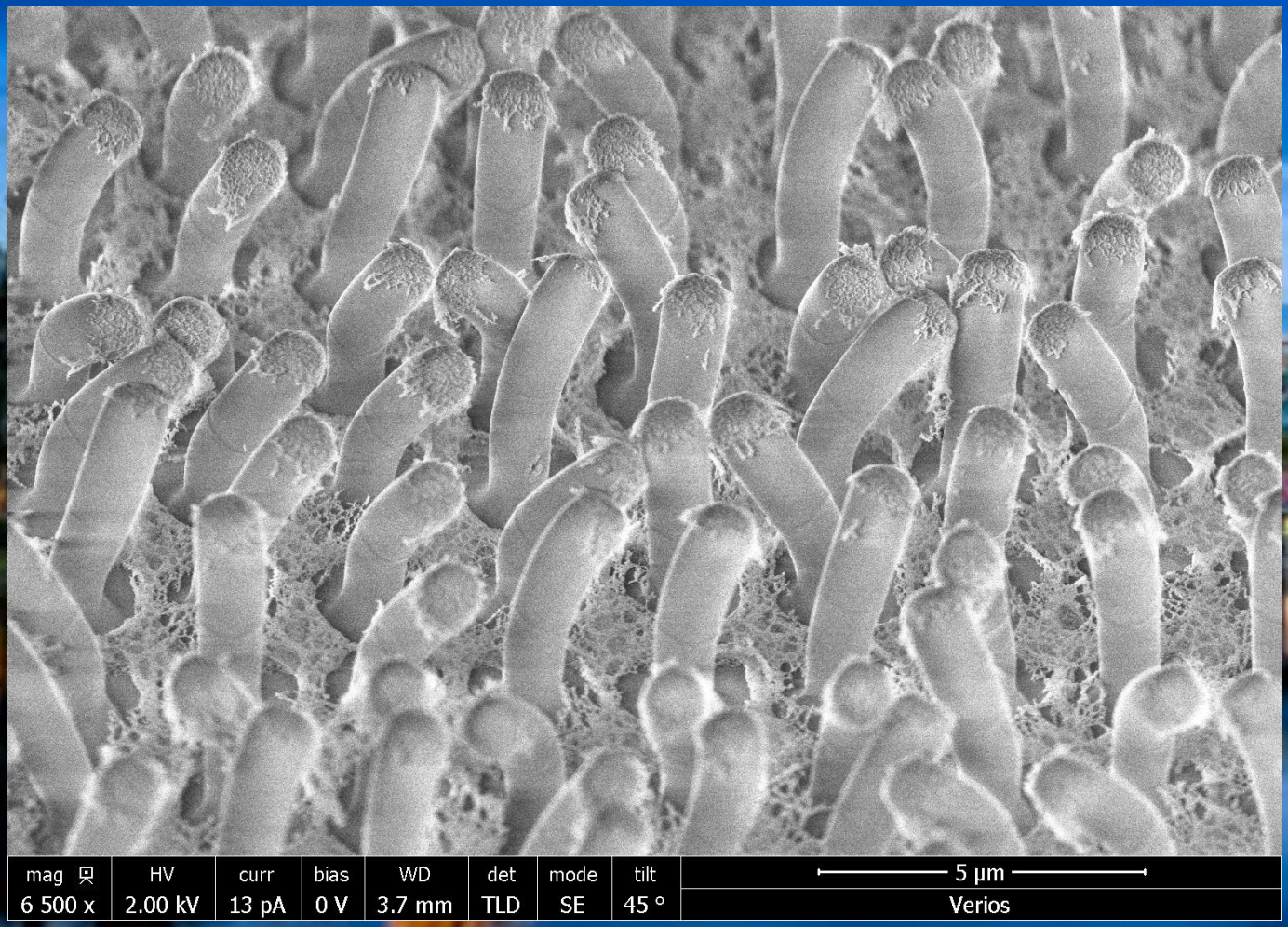
Instrument : FEI Verios 460L

Submitted by: Zhiren Luo

Affiliation: North Carolina State Univ.
Raleigh, NC

2017 EIPBN MicroGraph Contest

No Smoking - Who left so many cigarettes here?



Description:
During isotropic oxygen plasma etching of SU8 template with high pressure and power, a thin mesh layer forms and cover the surface of structure (PDMS rods array).

Magnification (3"x4" image): 6.5 KX

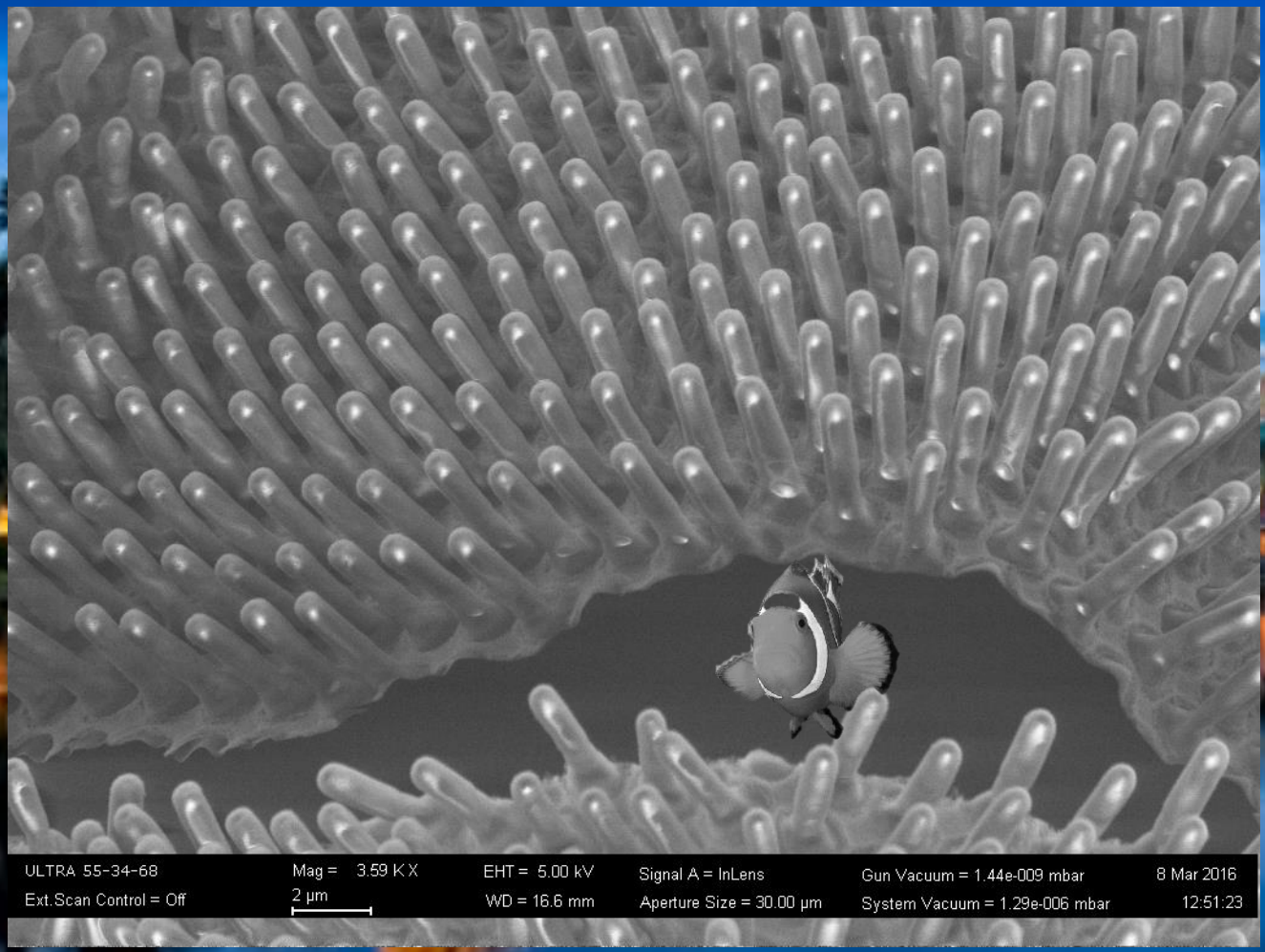
Instrument : FEI Verios 460L

Submitted by: Zhiren Luo

Affiliation: North Carolina State Univ.
Raleigh, NC

2017 EIPBN MicroGraph Contest

Sea Anemone – where nano nemo lives



Description:
The residual PDMS layer which supports PDMS pillars breaks after anisotropic RIE process.

Magnification (3"x4" image): 3.6 KX

Instrument : Raith 150

Submitted by: Zhiren Luo

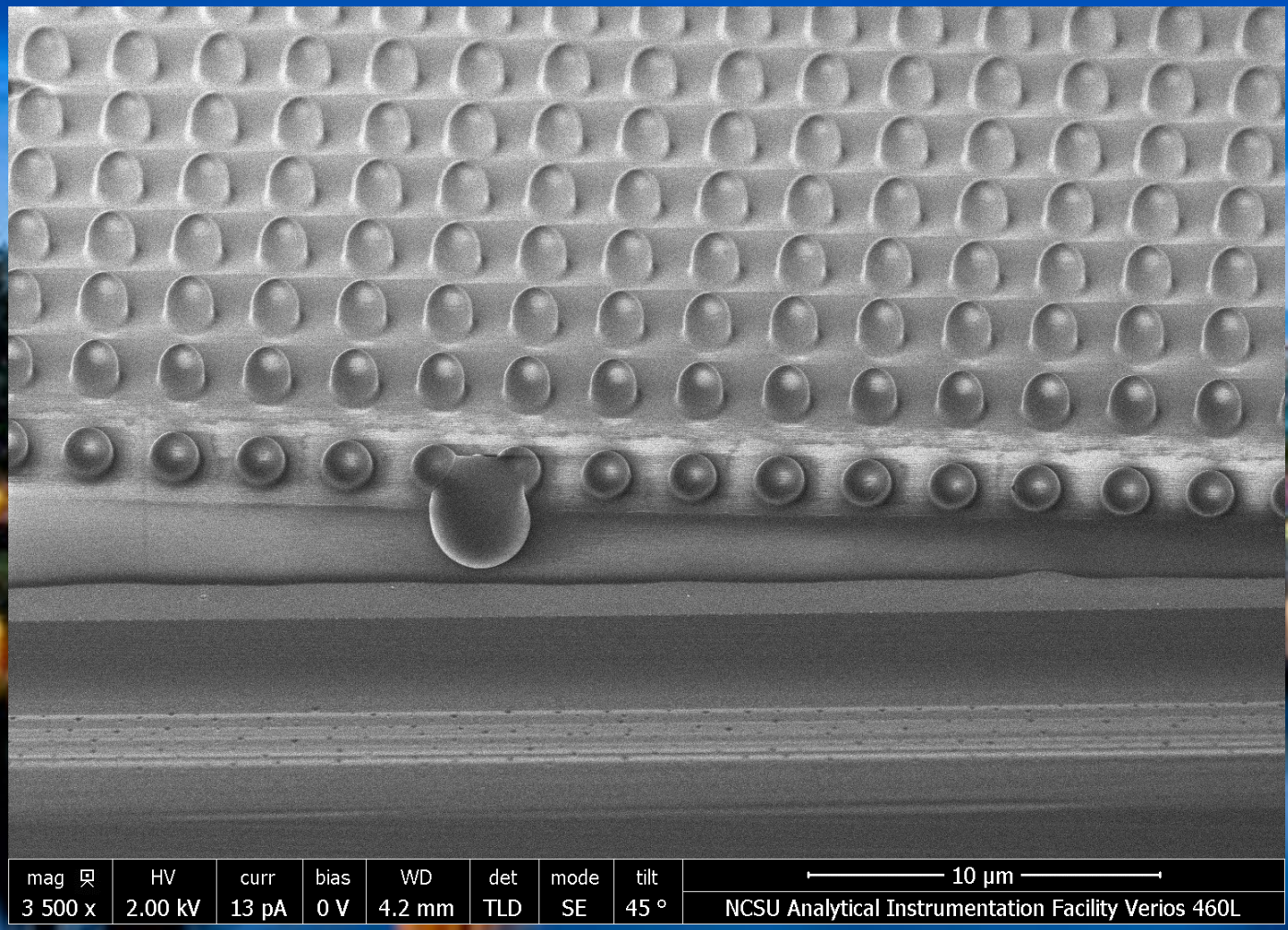
Affiliation: North Carolina State Univ.

Raleigh, NC

2017 EIPBN MicroGraph Contest

The Cake with cute Mickey Mouse cookie and candies

Description:
PDMS pillars array with lower aspect ratio.

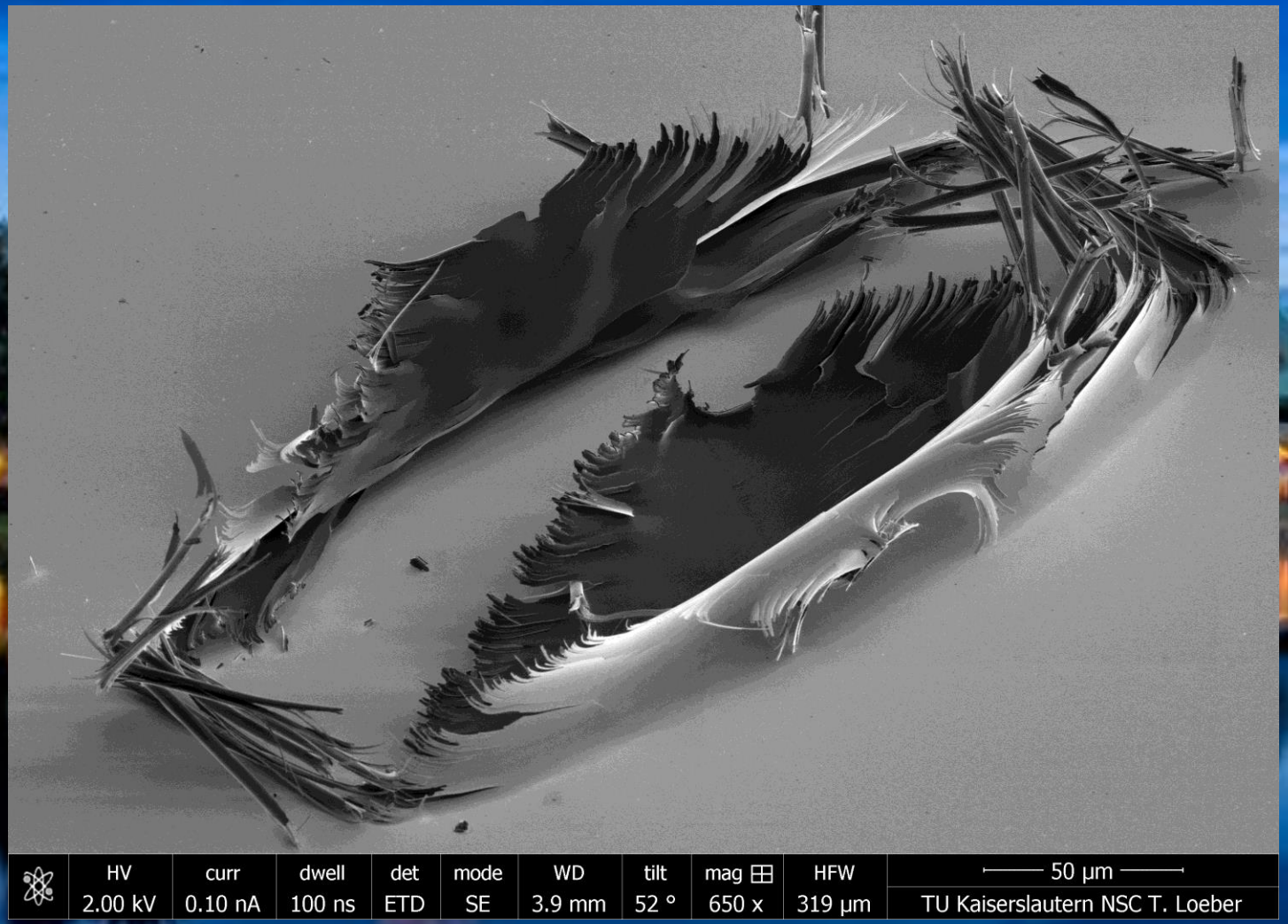


Magnification (3"x4" image): 3.5 KX
Instrument : FEI Verios 460L
Submitted by: Zhiren Luo
Affiliation: North Carolina State Univ.
Raleigh, NC

2017 EIPBN MicroGraph Contest

Blowout

Description:
Former cross section of AlGaAs/GaAs layers on a GaAs wafer. The Al has been oxidized and stress provokes a break up of the layers.



Magnification : 650X

Instrument : FEI Helios NanoLab 650

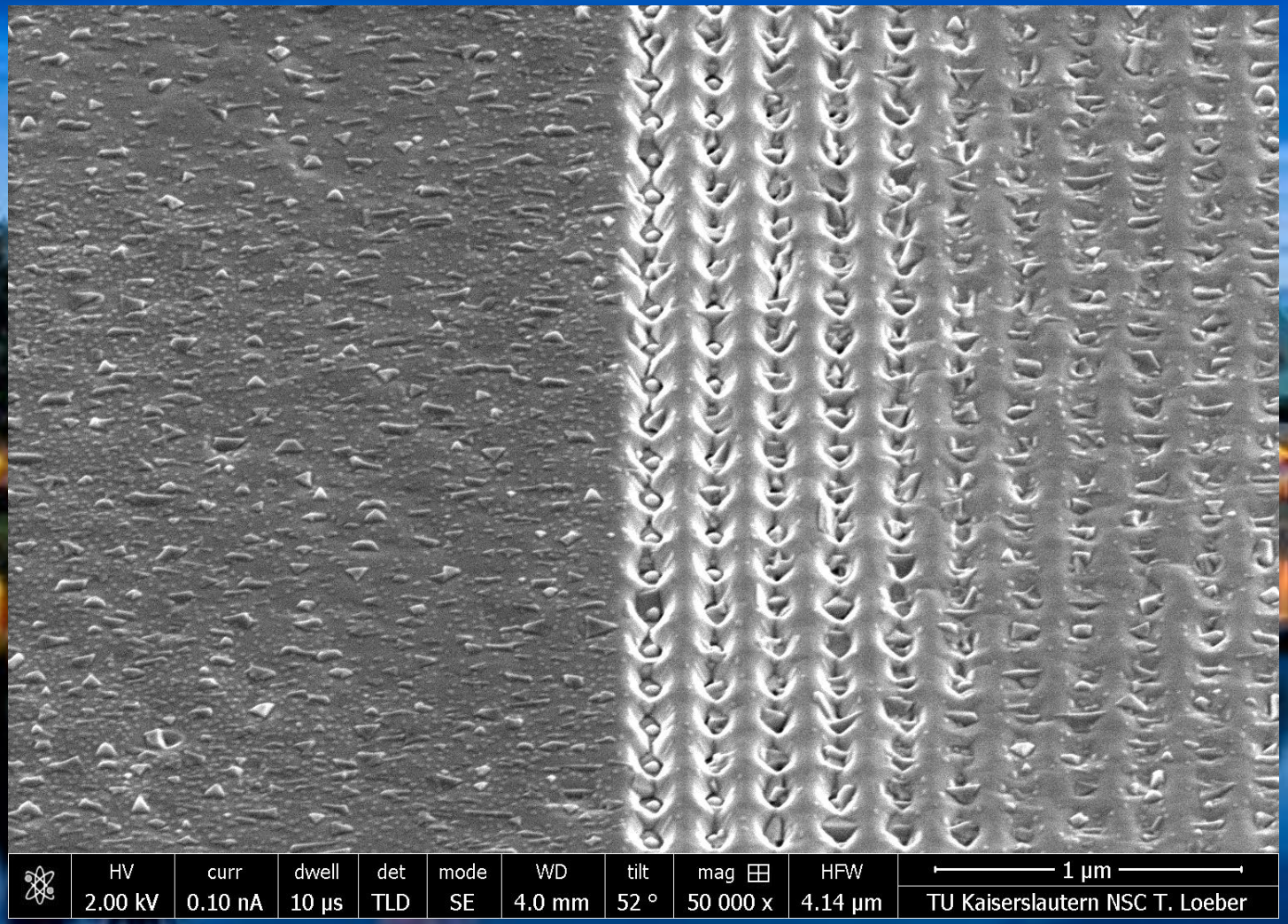
Submitted by: Thomas Loeber

Affiliation: NSC, TU Kaiserslautern

2017 EIPBN MicroGraph Contest

Chaos vs order

Description:
Half of the GaAs layer is structured with holes. On top of this layer GaAsSb quantum dots are grown. The dots grow highly ordered in the holes (right hand side) or randomly on the unstructured GaAs (left hand side).



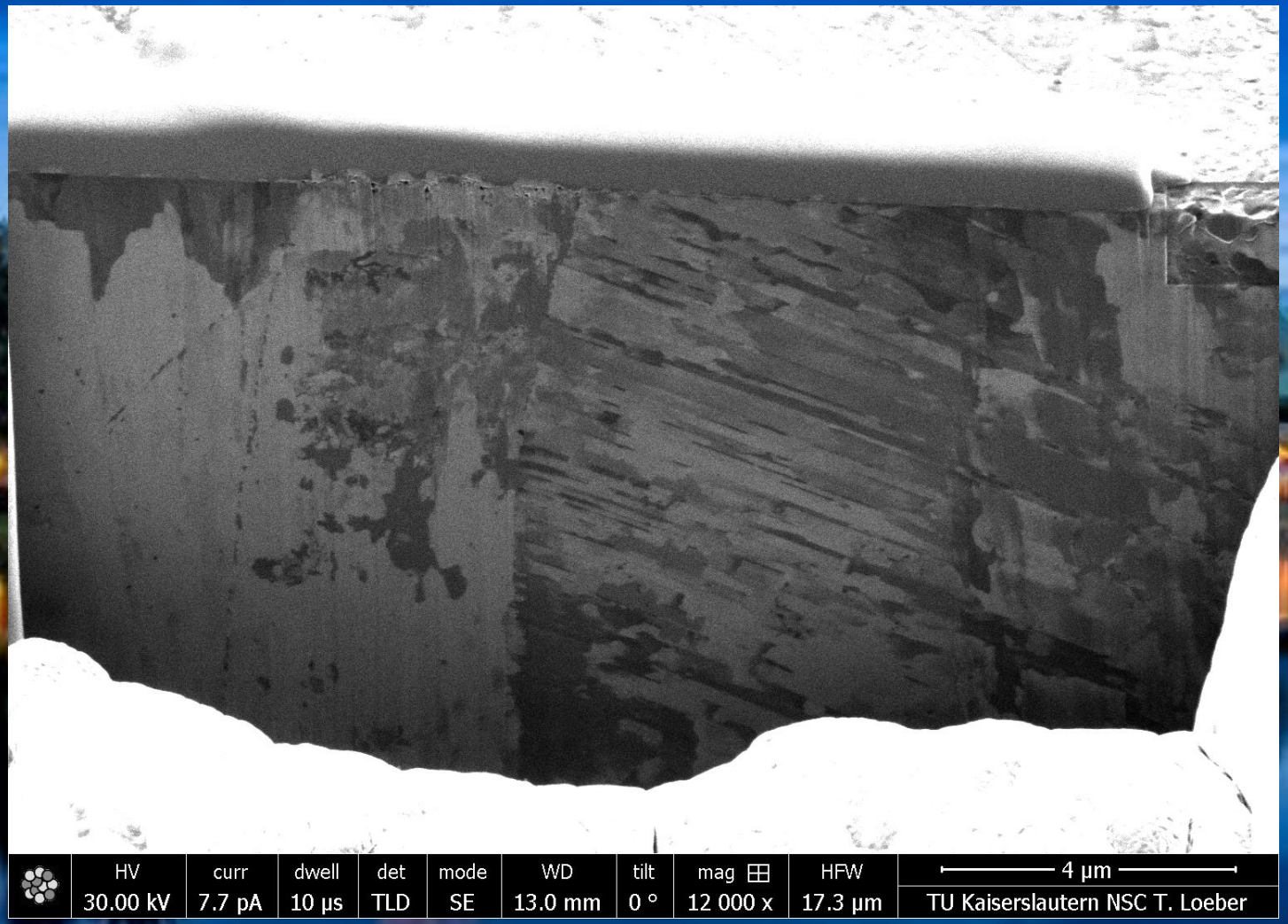
Magnification : 50KX
Instrument : FEI Helios NanoLab 650

Submitted by: Thomas Loeber
Affiliation: NSC, TU Kaiserslautern

2017 EIPBN MicroGraph Contest

Tectonic fault

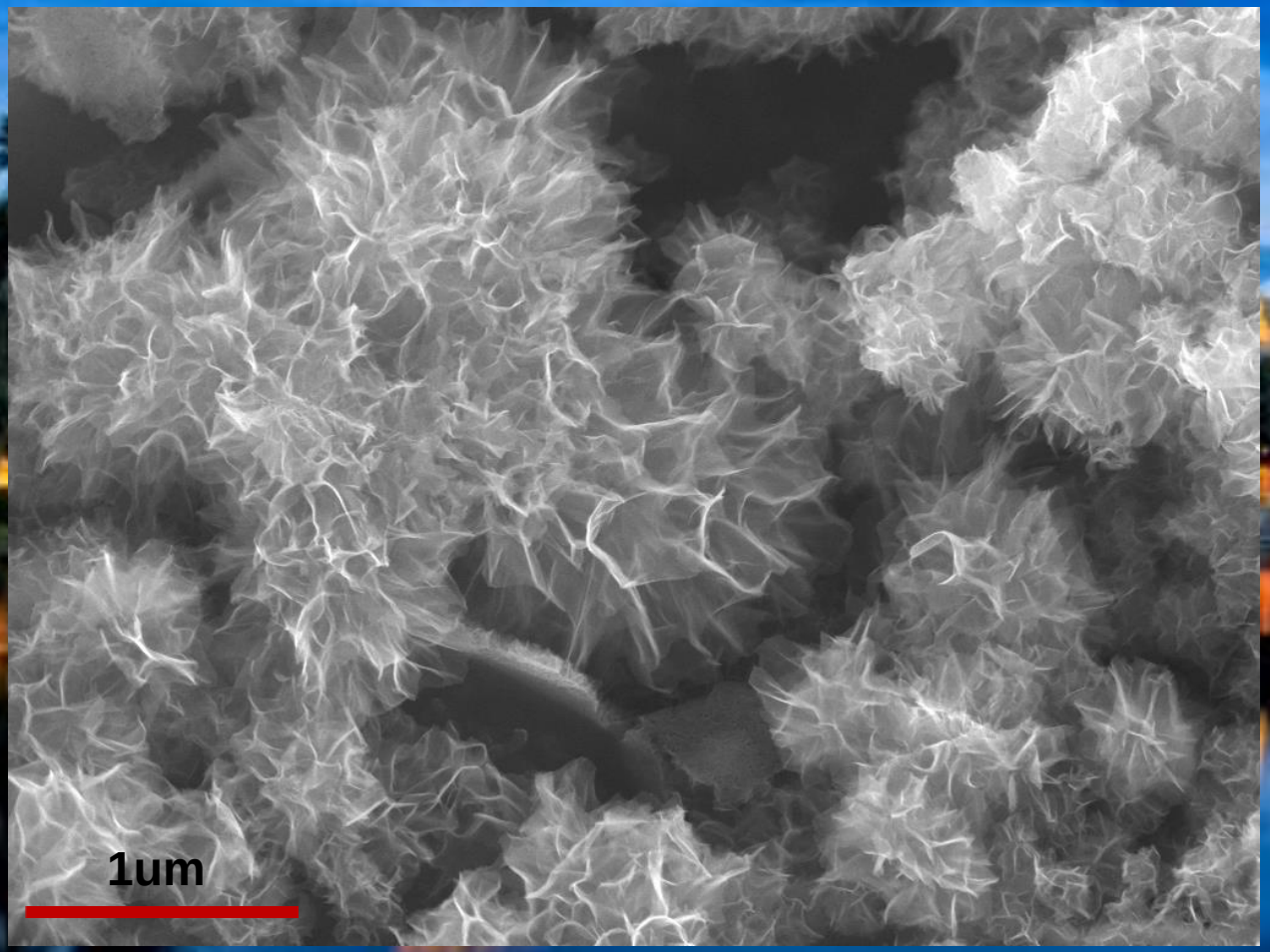
Description:
The gallium ion image shows the cross section of an iron sample that was heavily bent. The stress changes the crystalline structures from vertical (left hand side) to horizontal (right hand side).



Magnification : 12KX
Submitted by: Thomas Loeber
Instrument : FEI Helios NanoLab 650
Affiliation: NSC, TU Kaiserslautern

2017 EIPBN MicroGraph Contest

Micrograph Title:
Gulf Coral



Description:
Iron Oxide

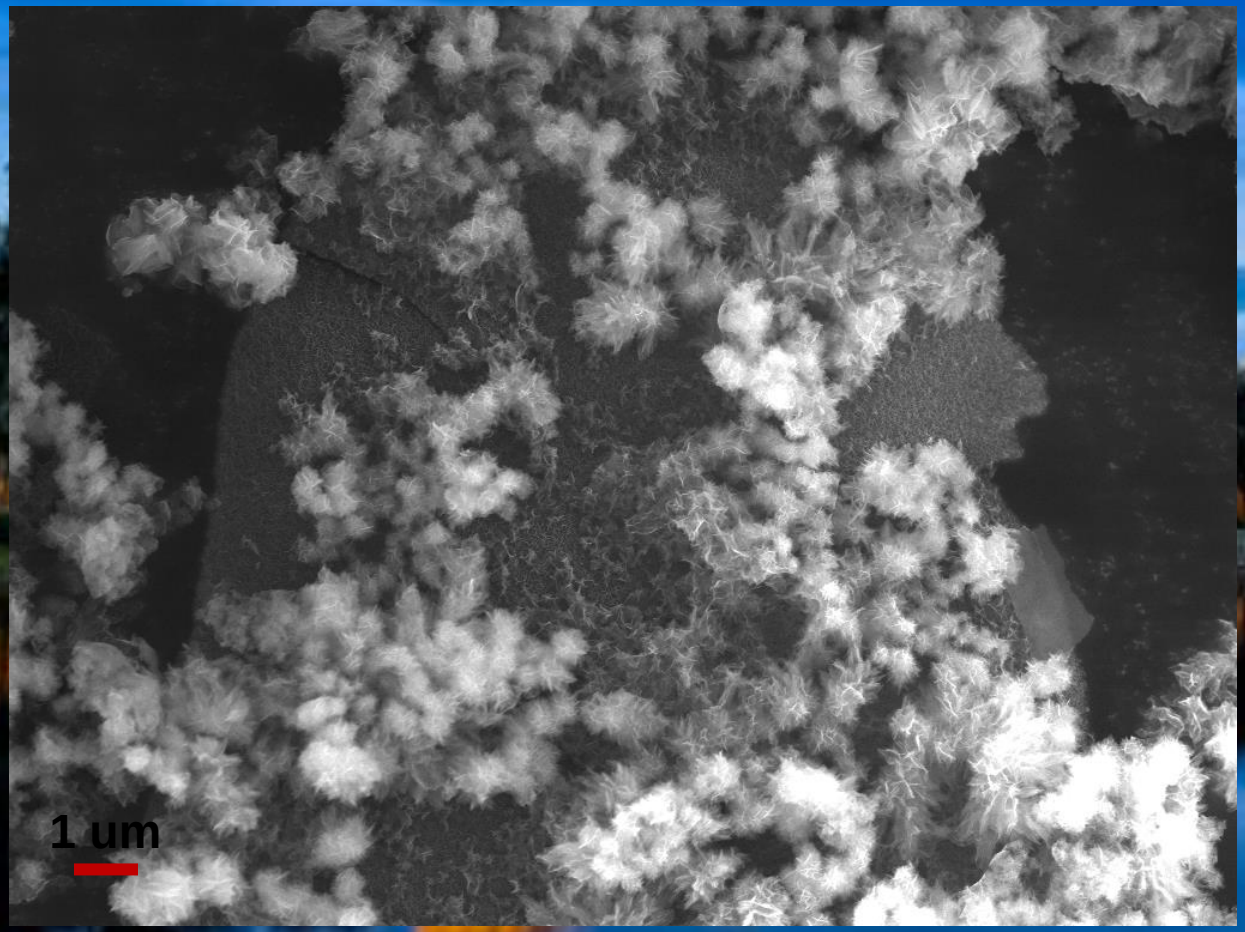
Magnification (3"x4" image): 40KX
Instrument : Zeiss Merlin SEM

Submitted by: Dale Hensley
Affiliation: Oak Ridge National Lab
Oak Ridge, TN North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Storm Clouds over Florida

Description:
Rust

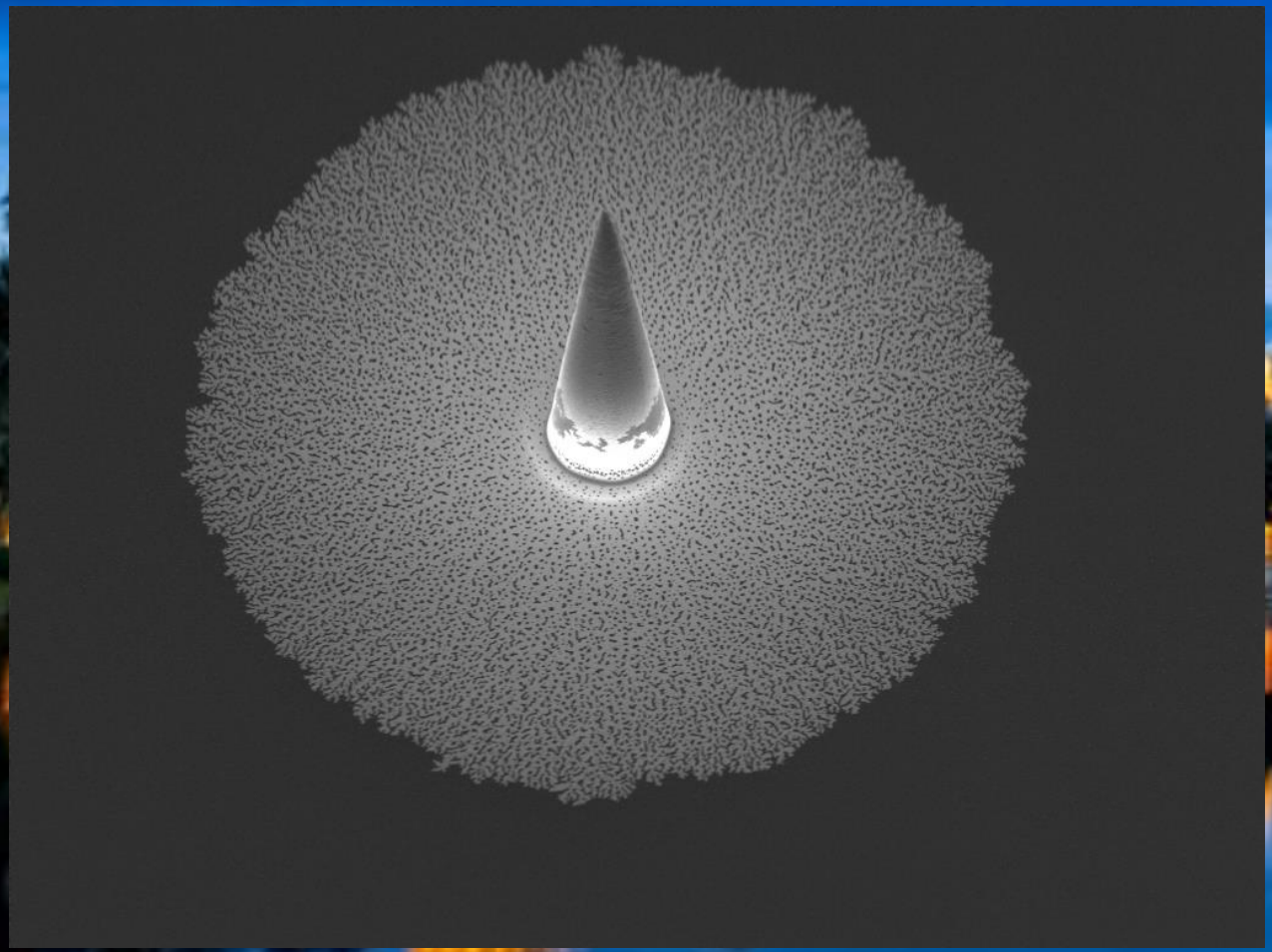


Magnification (3"x4" image): 8.4KX **Instrument :** Zeiss Merlin SEM

Submitted by: Dale Hensley **Affiliation:** Oak Ridge National Lab
Oak Ridge, TN North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Frozen



Description:
Polymer left behind after a RIE cryo etch.

Magnification (3"x4" image): 3KX

Instrument : Zeiss Merlin SEM

Submitted by: Dale Hensley

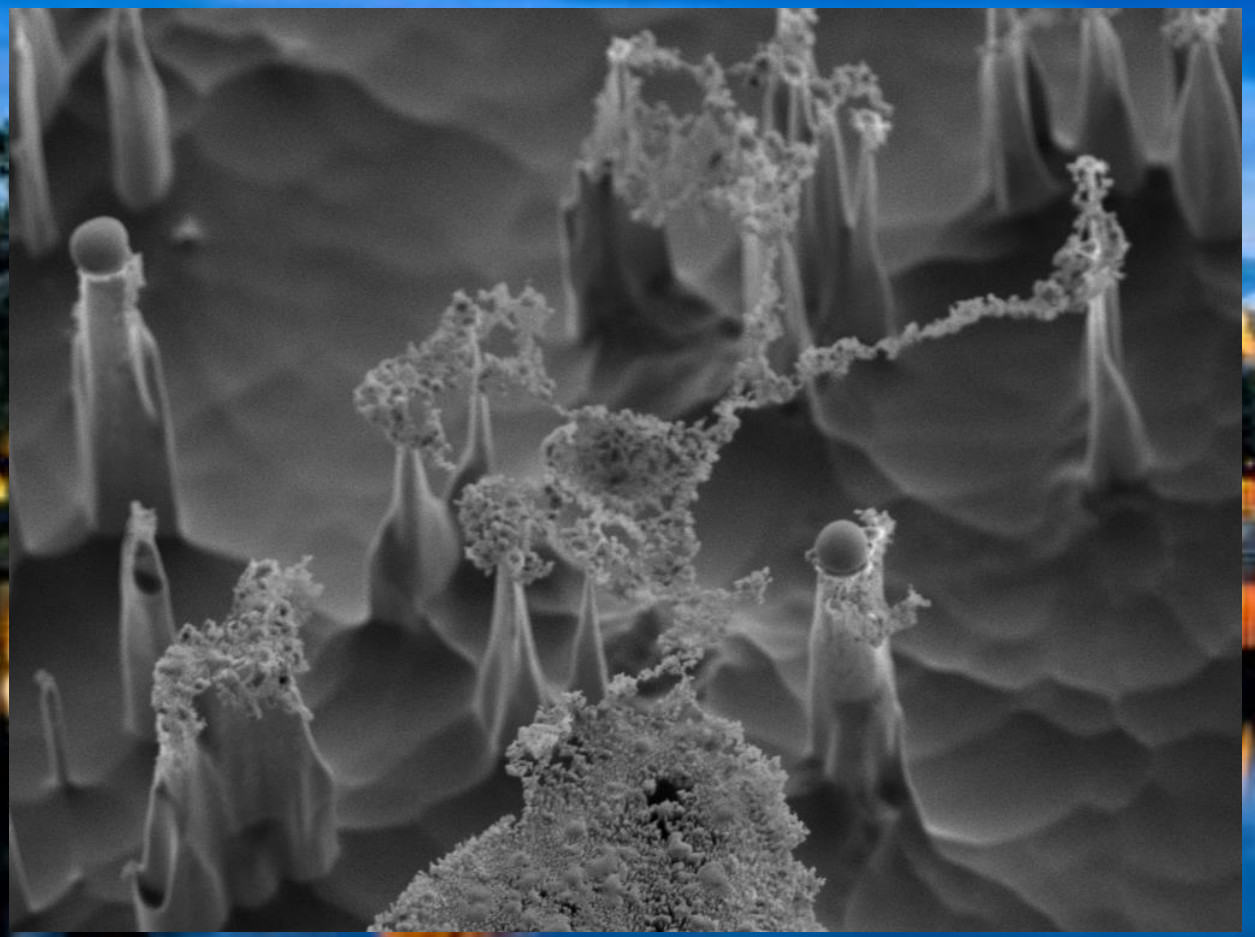
Affiliation: Oak Ridge National Lab

Oak Ridge, TN North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Nano Pandora, the newest attraction at Disney world

Description:
RIE cryo etch gone wrong

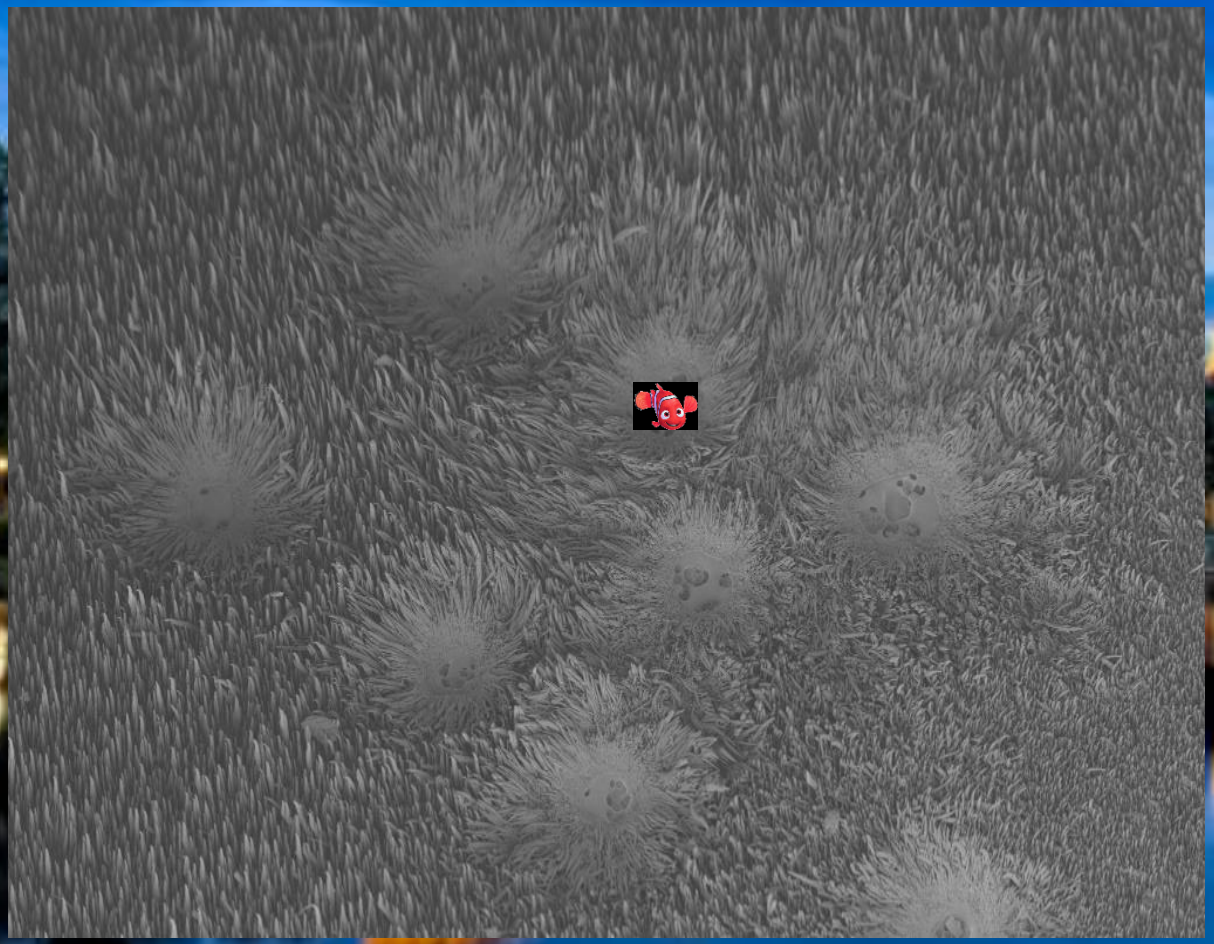


Magnification (3"x4" image): 23.6KX **Instrument :** Zeiss Merlin SEM

Submitted by: Dale Hensley **Affiliation:** Oak Ridge National Lab
Oak Ridge, TN North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Finding Nemo in Sea Anemone



Description:
Arcing in the PECVD during carbon nano fiber growth

Magnification (3"x4" image): 703X

Instrument : Zeiss Merlin SEM

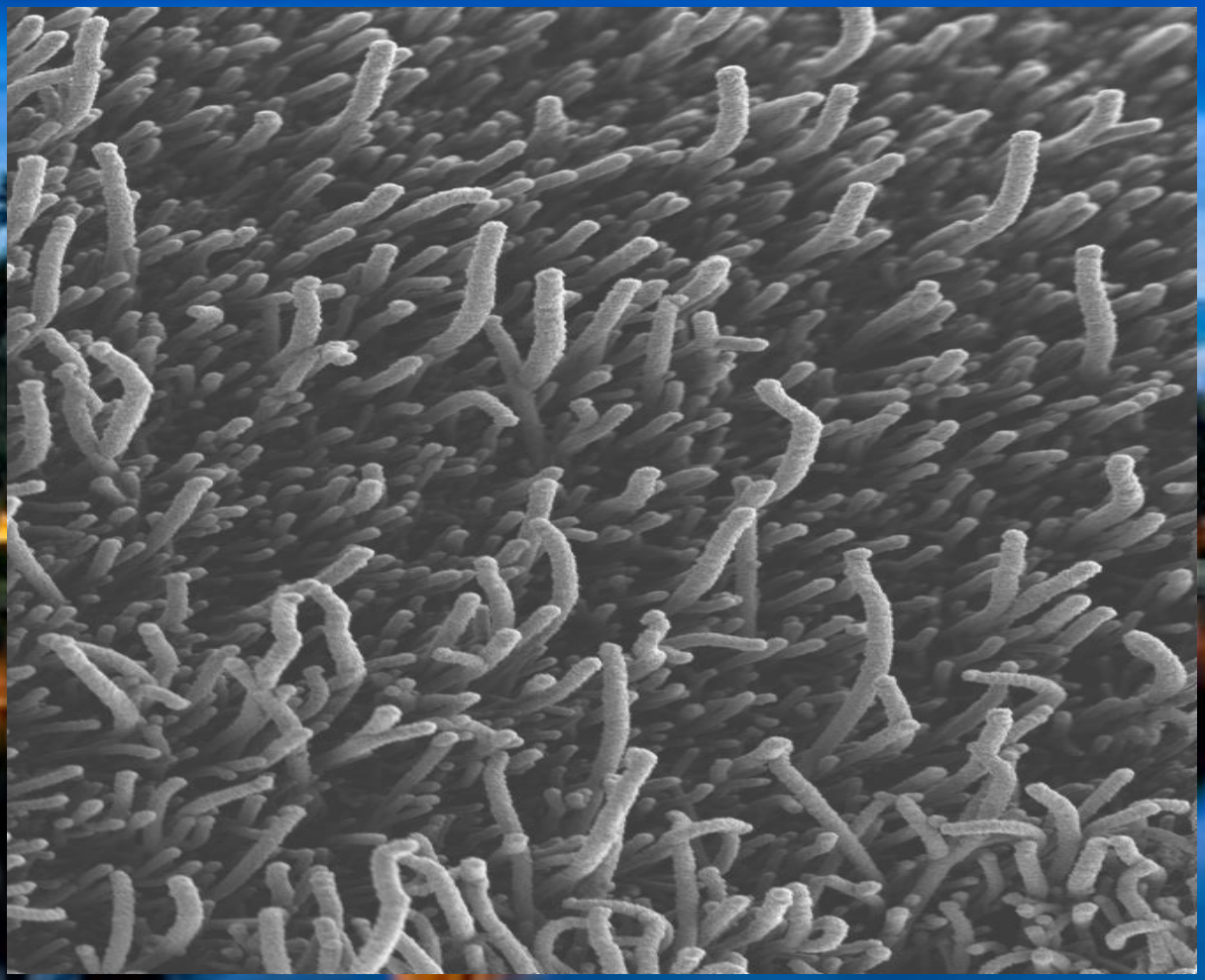
Submitted by: Dale Hensley

Affiliation: Oak Ridge National Lab

Oak Ridge, TN North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Nano Sea Anemone



Description:
Carbon Nano Fibers

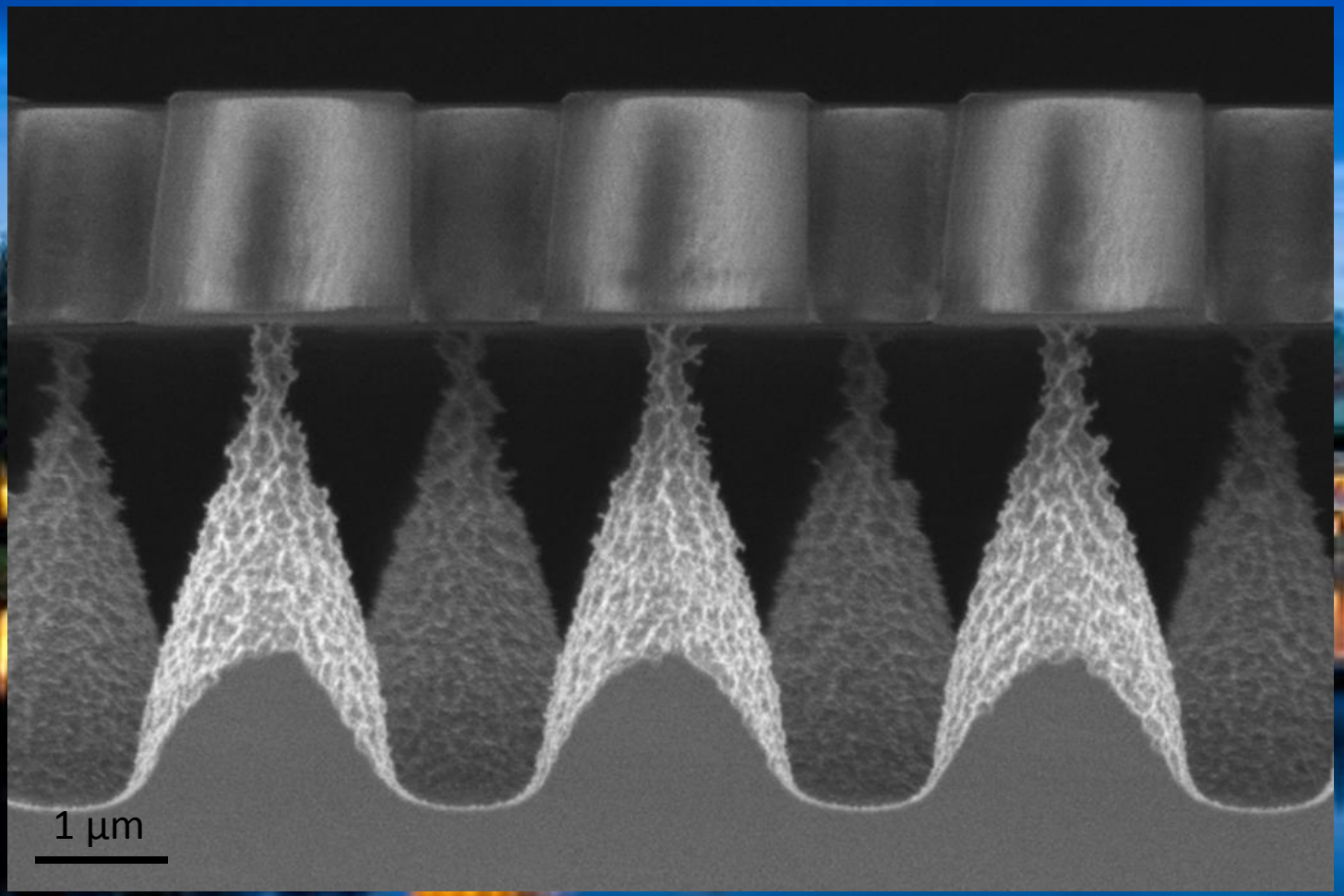
Magnification (3"x4" image): 6.86KX **Instrument :** Zeiss Merlin SEM

Submitted by: Dale Hensley **Affiliation:** Oak Ridge National Lab
Oak Ridge, TN North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
The 7 dwarfs waiting for Snow White.

Description:
The 7 dwarfs are eagerly waiting for Snow White, all carrying a sweet gift: White Snow loves marshmallows!



Magnification (3"x4" image): 7.7KX
Submitted by: Corinna Kaspar

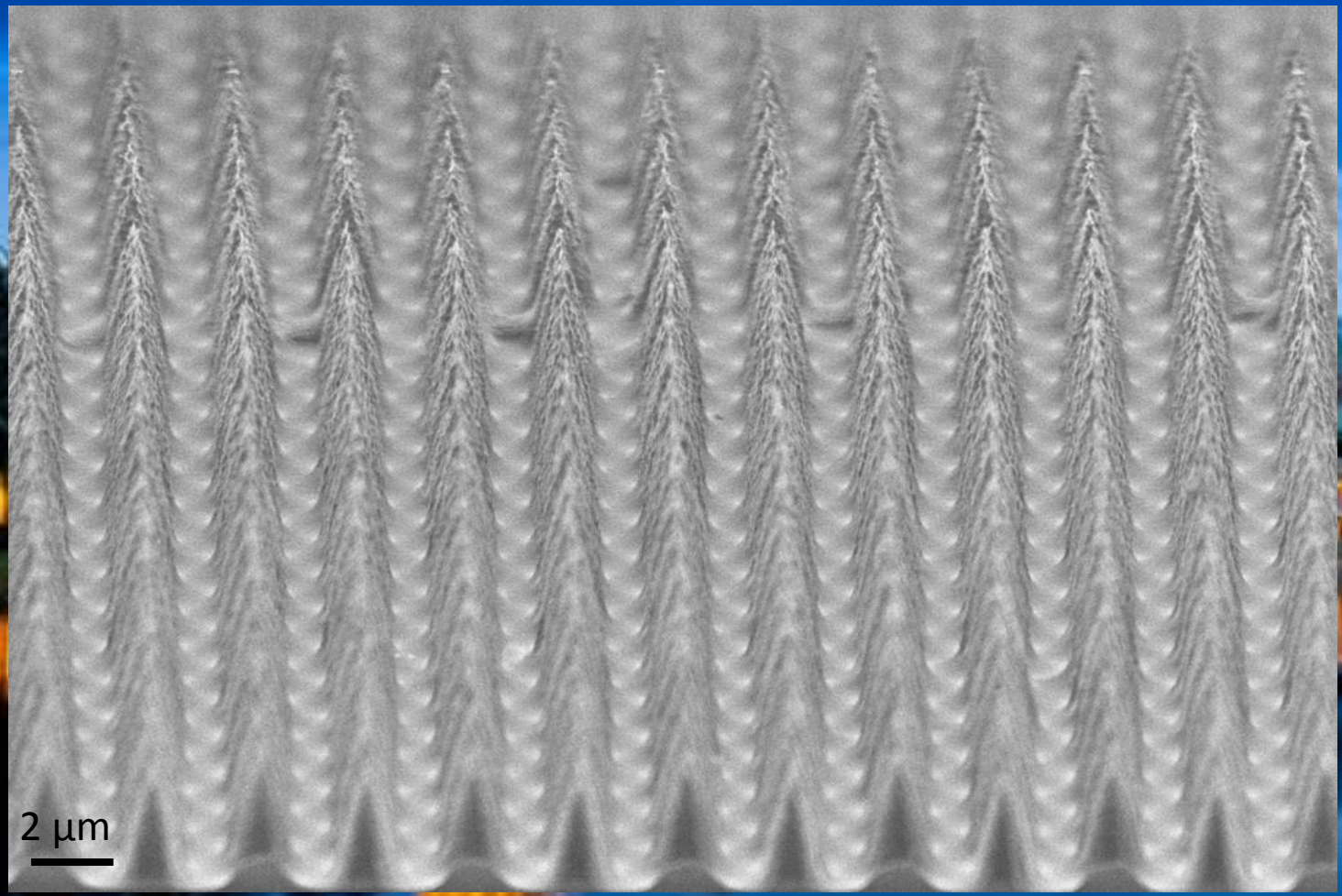
Instrument : Zeiss LEO 1560
Affiliation: IMS-CHIPS Stuttgart, Germany

2017 EIPBN MicroGraph Contest

62

Micrograph Title:
Cultivation of Christmas trees.

Description:
Every year in December people look for perfectly shaped Christmas trees. We grow them on a huge scale!

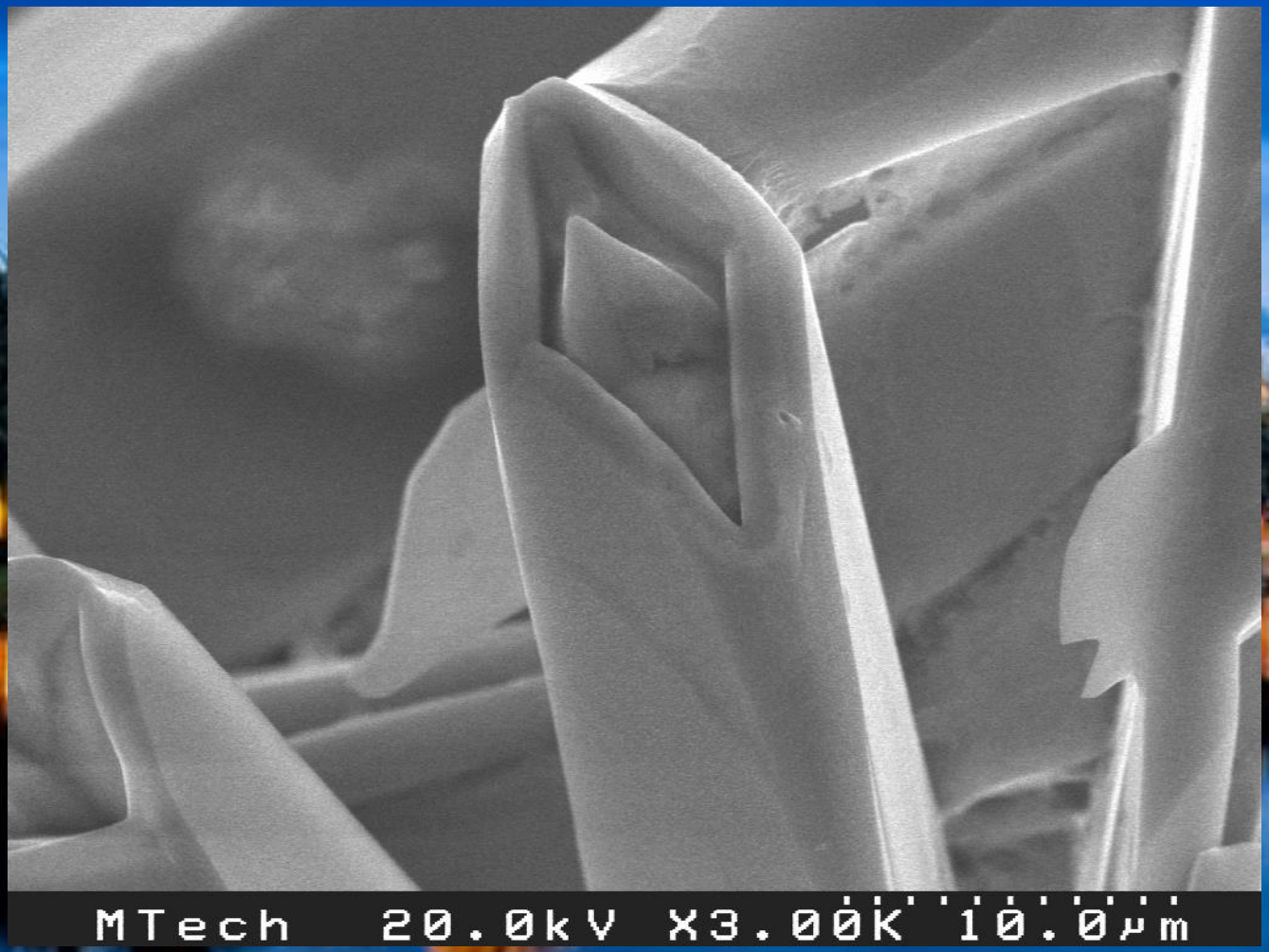


Magnification (3"x4" image): 3.5KX
Submitted by: Corinna Kaspar

Instrument : Zeiss LEO 1560
Affiliation: IMS-CHIPS Stuttgart, Germany

2017 EIPBN MicroGraph Contest

Micrograph Title:
Smiling Anteater



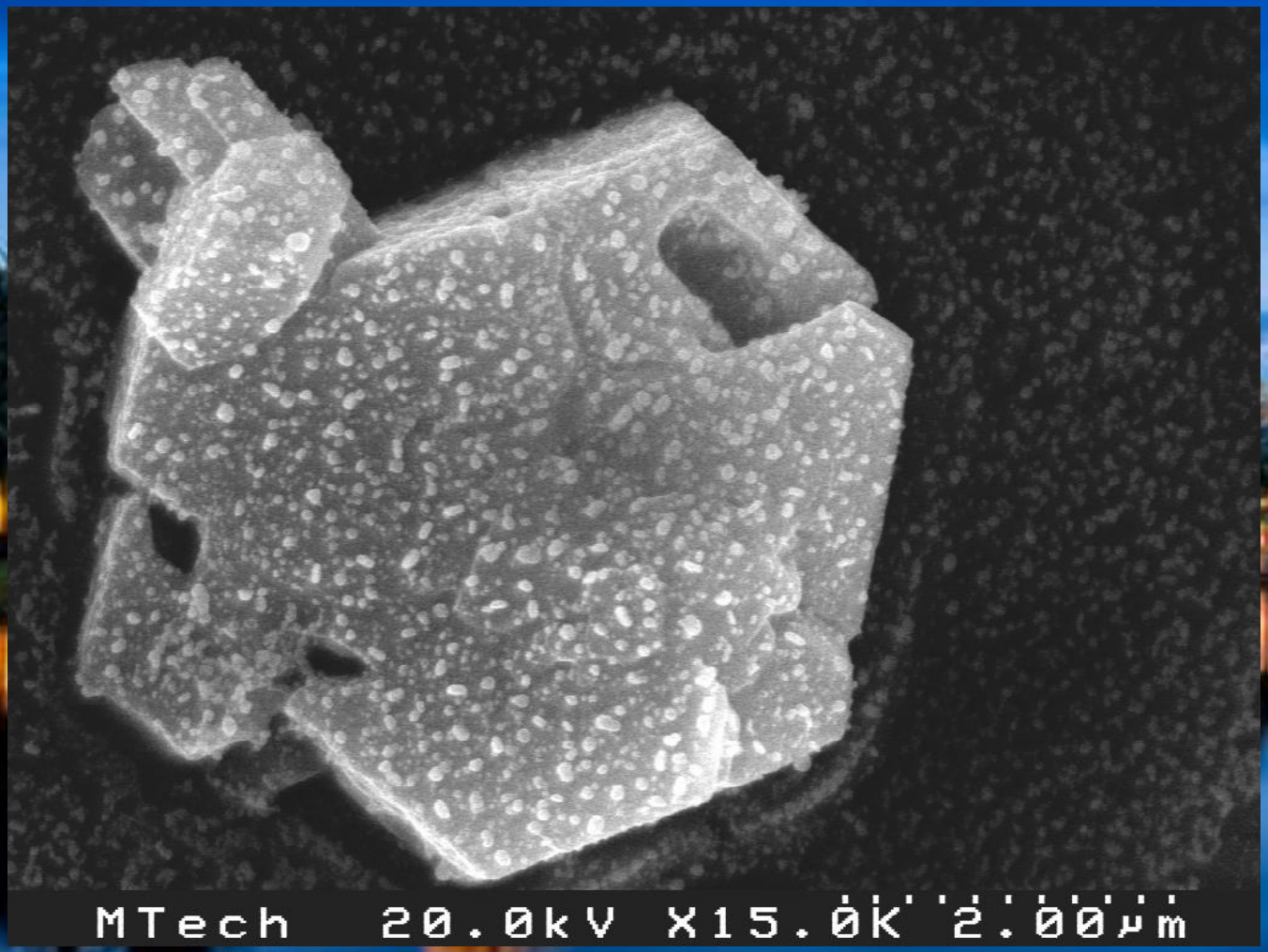
Description:
PbI_2 crystal precipitated from solution using two solvent, solvent/anti-solvent method

Magnification (3"x4" image): 3KX
Instrument : Hitachi S-4500

Submitted by: John P. Murphy
Affiliation: Montana Tech
Montana, U.S.A.

2017 EIPBN MicroGraph Contest

Micrograph Title:
Hexagonal Acne



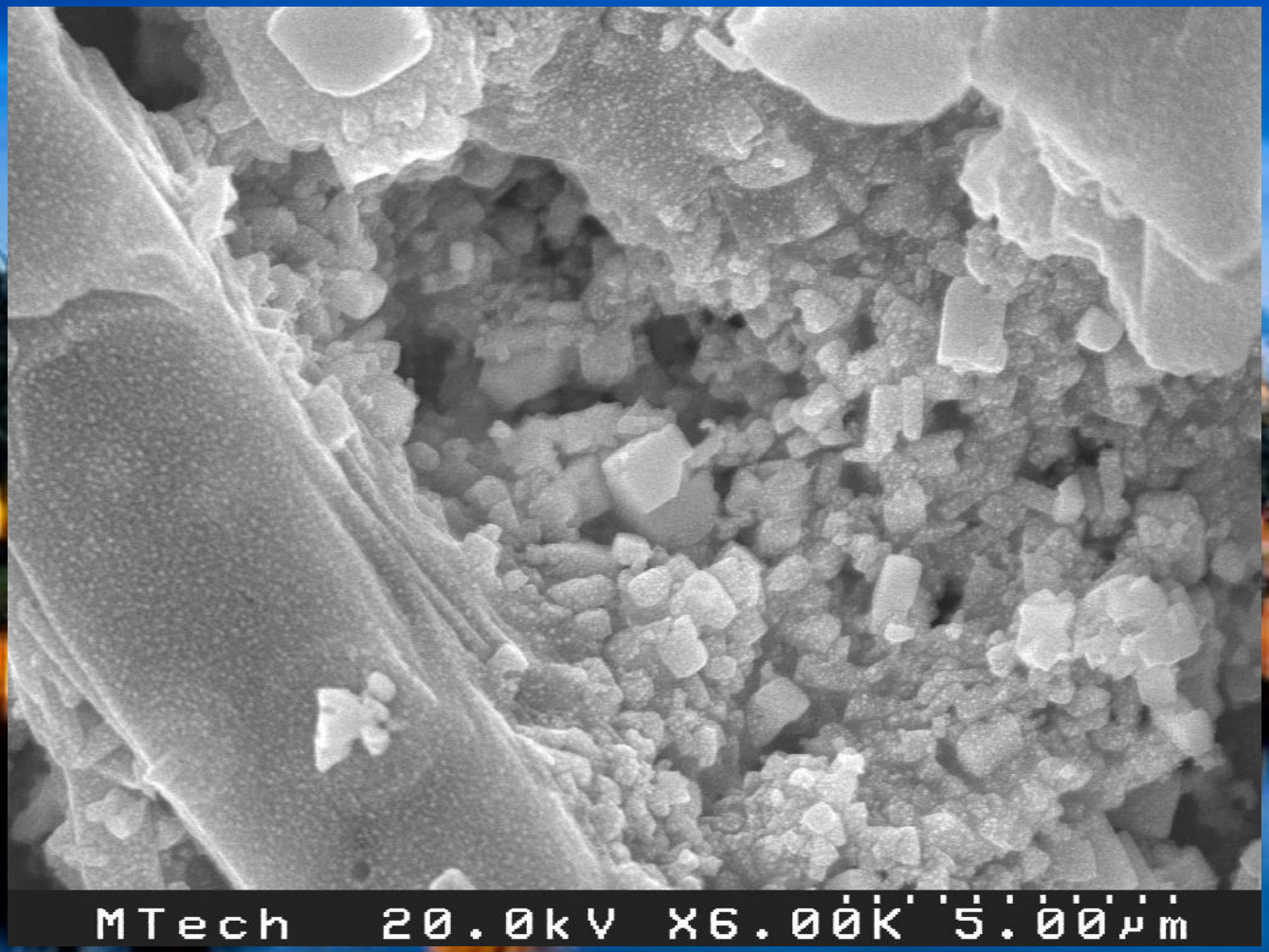
Description:
Hybrid organic-inorganic perovskite ($CH_3NH_3PbI_3$) microcrystallite synthesized sonochemically

Magnification (3"x4" image): 15KX
Submitted by: John P. Murphy

Instrument : Hitachi S-4500
Affiliation: Montana Tech
Montana, U.S.A.

2017 EIPBN MicroGraph Contest

Micrograph Title:
Valley of the Cubes



Description:
Hybrid organic-inorganic perovskite particles liberated from a bulk single crystal via sonication

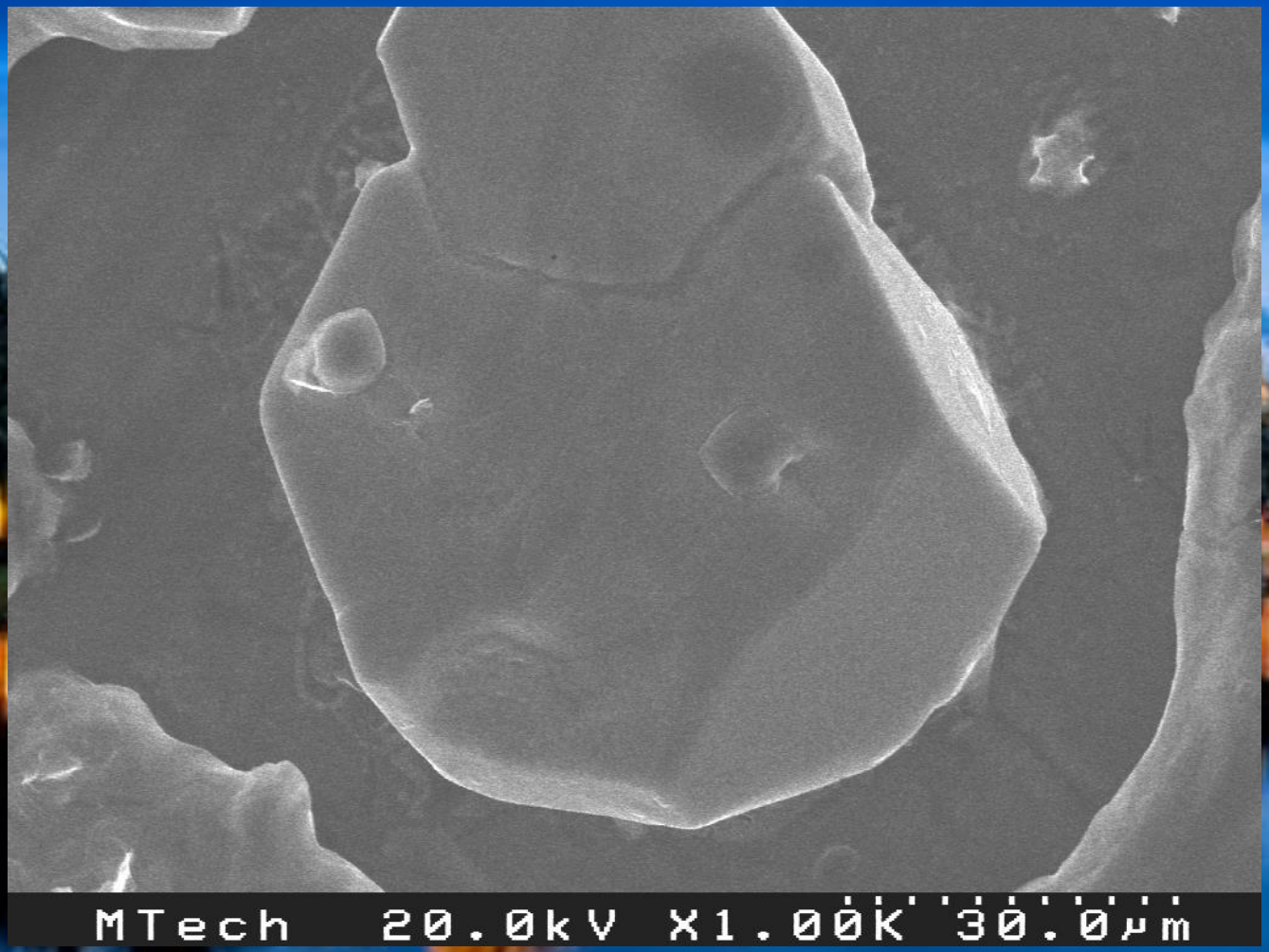
Magnification (3"x4" image): 6KX
Instrument : Hitachi S-4500

Submitted by: John P. Murphy
Affiliation: Montana Tech
Montana, U.S.A.

2017 EIPBN MicroGraph Contest

Micrograph Title:
Frumpy Faced Crystal

Description:
A sad little PbI_2 precipitated with no friends

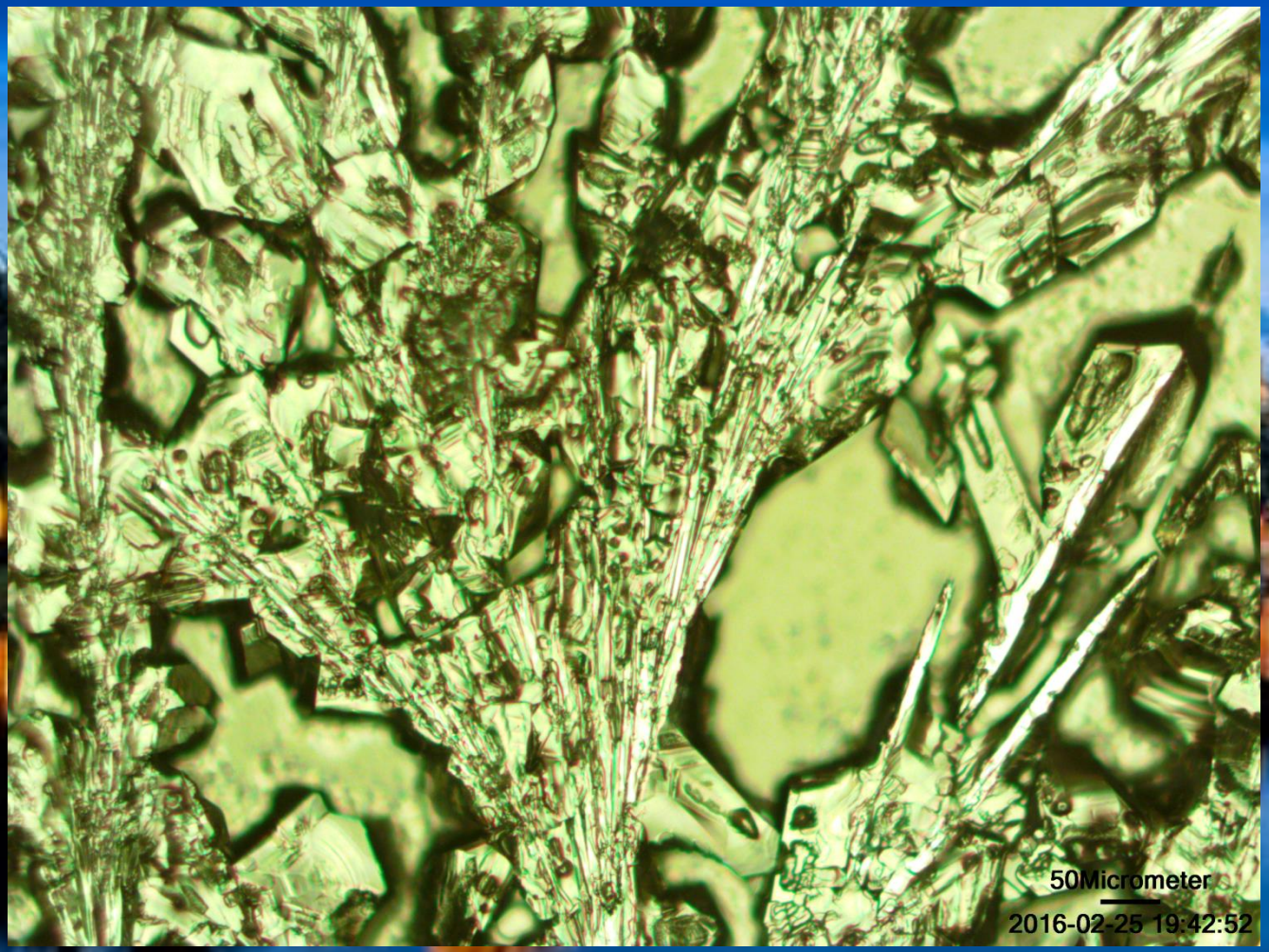


Magnification (3"x4" image): 1KX
Instrument : Hitachi S-4500
Submitted by: John P. Murphy
Affiliation: Montana Tech
Montana, U.S.A.

2017 EIPBN MicroGraph Contest

Micrograph Title:
Kryptonite

Description:
Zod is getting a little crazy with these PbI_2 crystals…

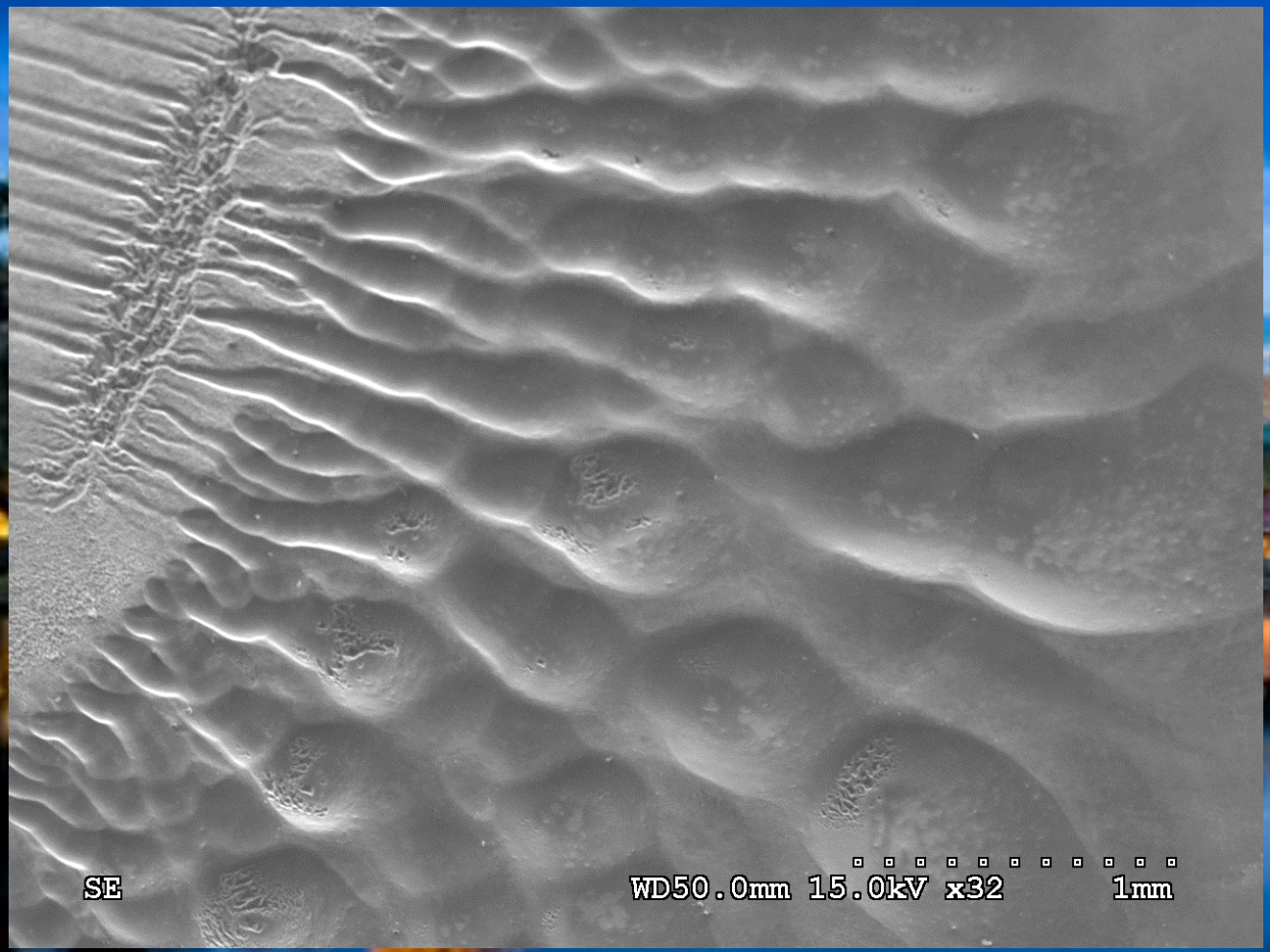


Magnification (3"x4" image): 20X
Instrument : Mitutoyo FS-60

Submitted by: John P. Murphy
Affiliation: Montana Tech
Montana, U.S.A.

2017 EIPBN MicroGraph Contest

Micrograph Title:
Silicon Dunes



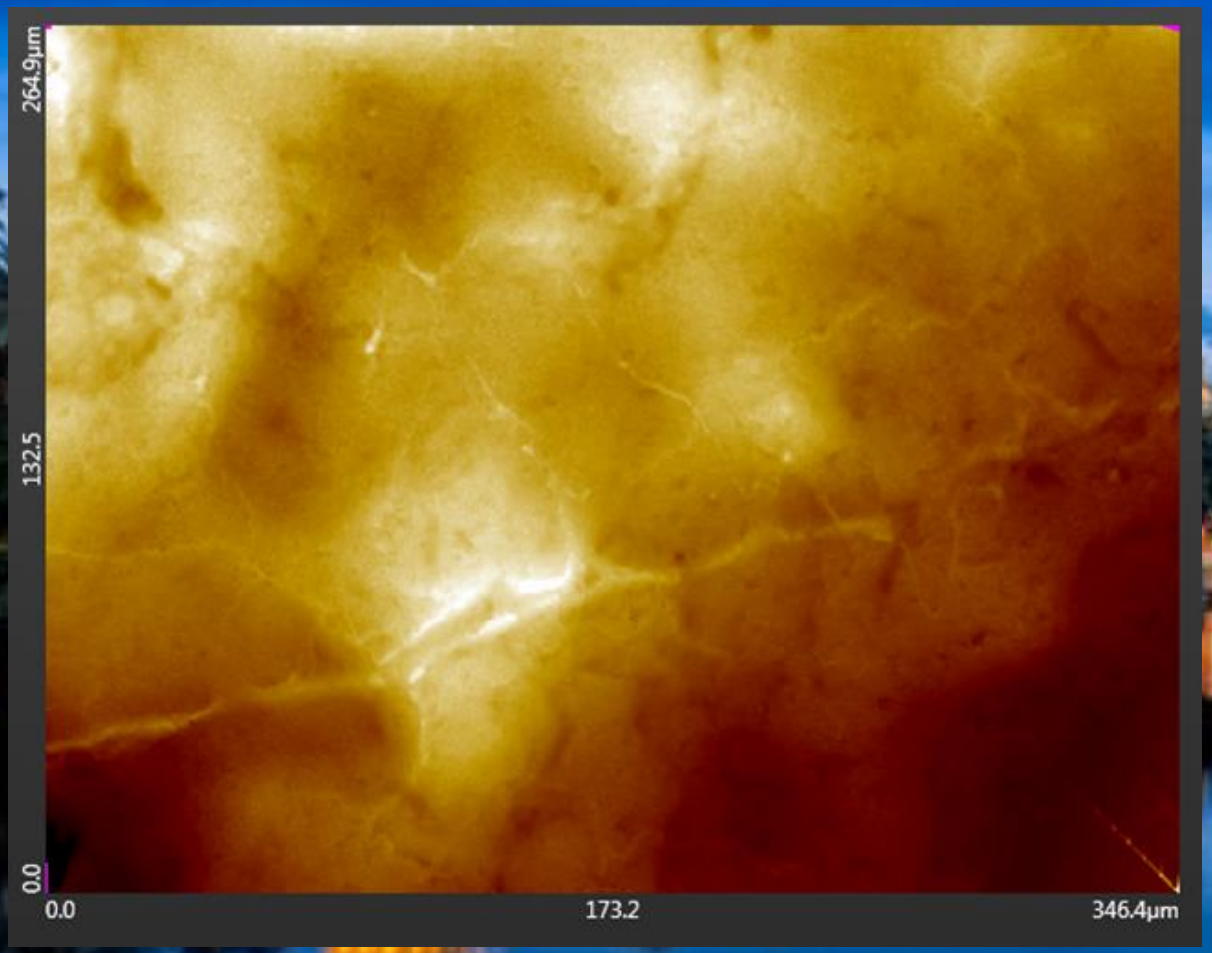
Description:
Behold! The Great Silicon Dunes. "Sands of time" takes on a different meaning here, especially when we consider etch times.

Magnification (3"x4" image): 32X
Submitted by: Naga Korivi

Instrument : JEOL JSM-6610 SEM
Affiliation: Tuskegee University
Alabama, North America

2017 EIPBN MicroGraph Contest

Micrograph Title:
Polymer Nebula



Description:
An optical interferometric image of a polymer molded on a chicken eggshell can provide cosmic insight on what came first – the chicken or the egg.

Magnification (3"x4" image): 20X
Instrument : KLA µXAM 800 Interferometer

Submitted by: Naga Korivi, Li Jiang
Affiliation: Tuskegee University
Alabama, North America

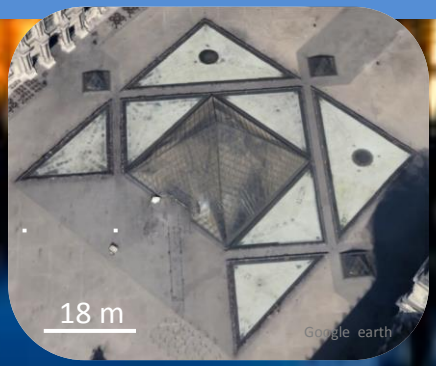
2017 EIPBN MicroGraph Contest

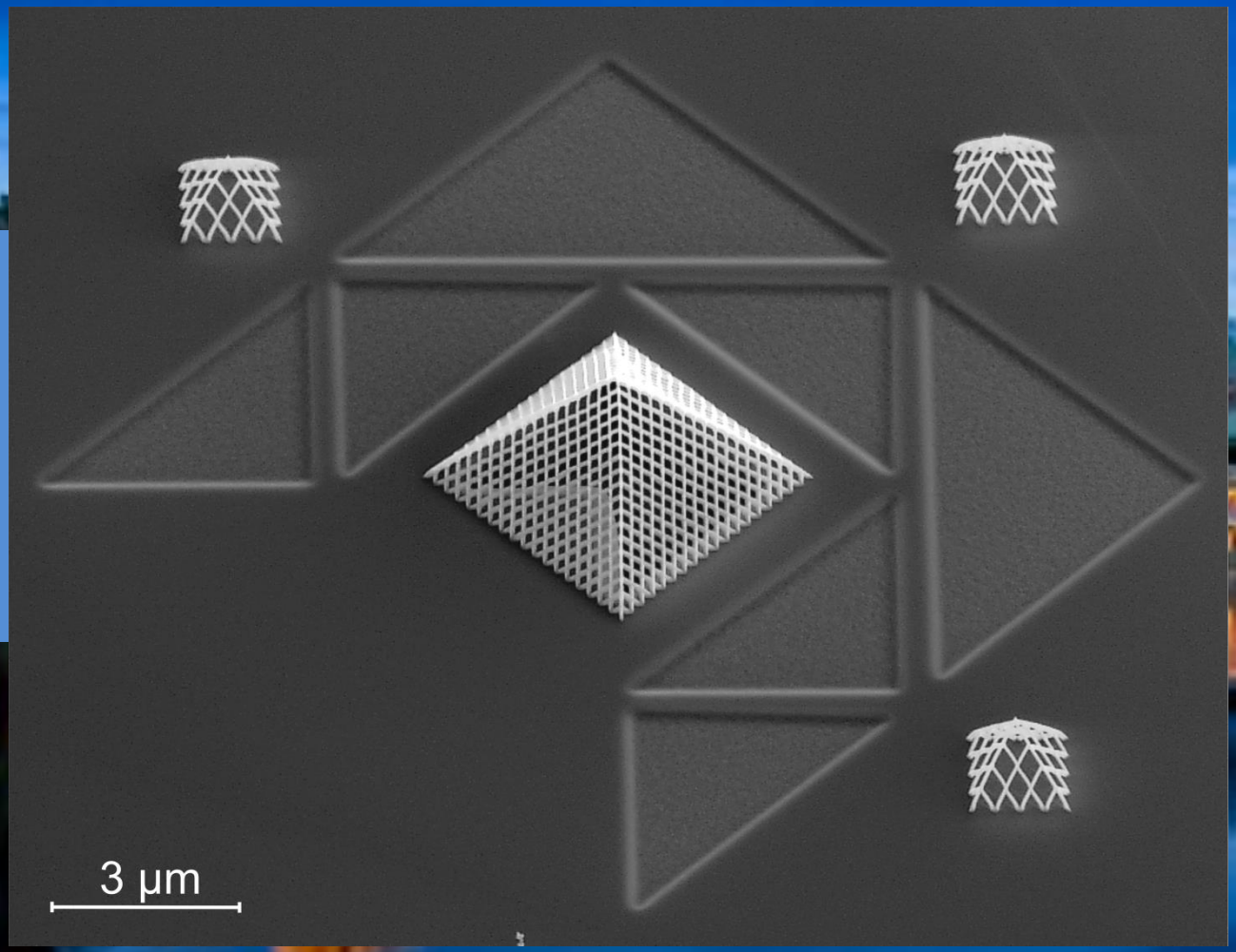
Micrograph Title:

Nano-Louvre: A museum for your pocket

Description:

FEBID miniature of the glass pyramids in the courtyard of the Louvre in Paris in a scale of 1: 8.000.000. Basement and the fountains are FIB-cuts, the 3D-structure material (branch sizes between 25 and 70 nm) is platinum/carbon.





Magnification (3"x4" image): 5KX

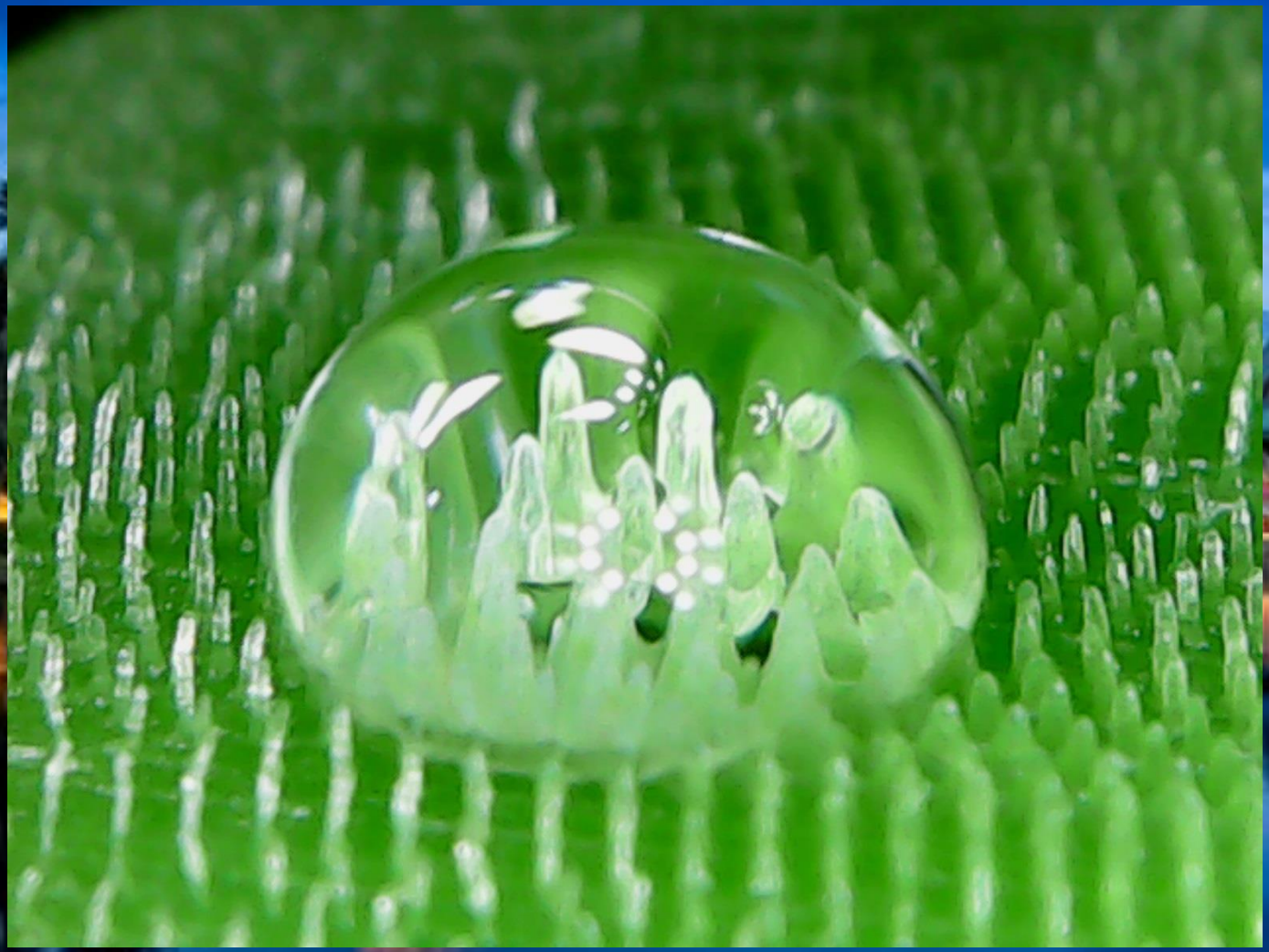
Submitted by: Robert Winkler

Instrument : FEI FIB NOVA 200

Affiliation: FELMI-ZFE, Graz Centre for Electron Microscopy

2017 EIPBN MicroGraph Contest

Micrograph Title:
Sprout



Description:
Several pillars magnified by a water droplet on a 3D printed artificial lotus leaf

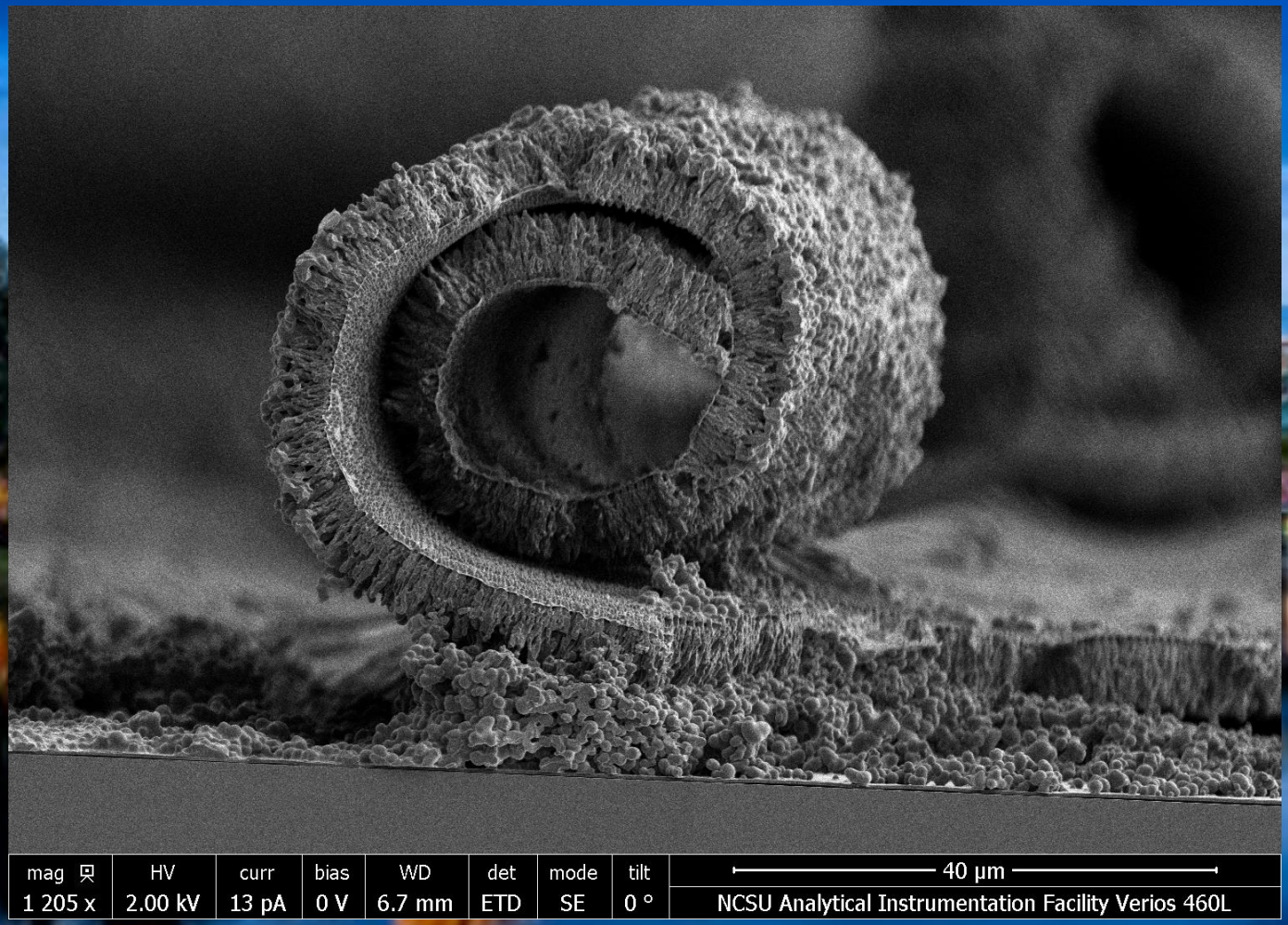
Magnification (3"x4" image): 0.5KX **Instrument :** Colemeter Digital Microscope

Submitted by: Yuanrui Li **Affiliation:** University of Southern California

2017 EIPBN MicroGraph Contest

Micrograph Title:
Nano-Tsunami

Description:
Something as small as the flutter of a butterfly's wing can ultimately cause a tsunami on the wafer.



Magnification (3"x4" image): 1205X

Instrument : FEI Verios 460L

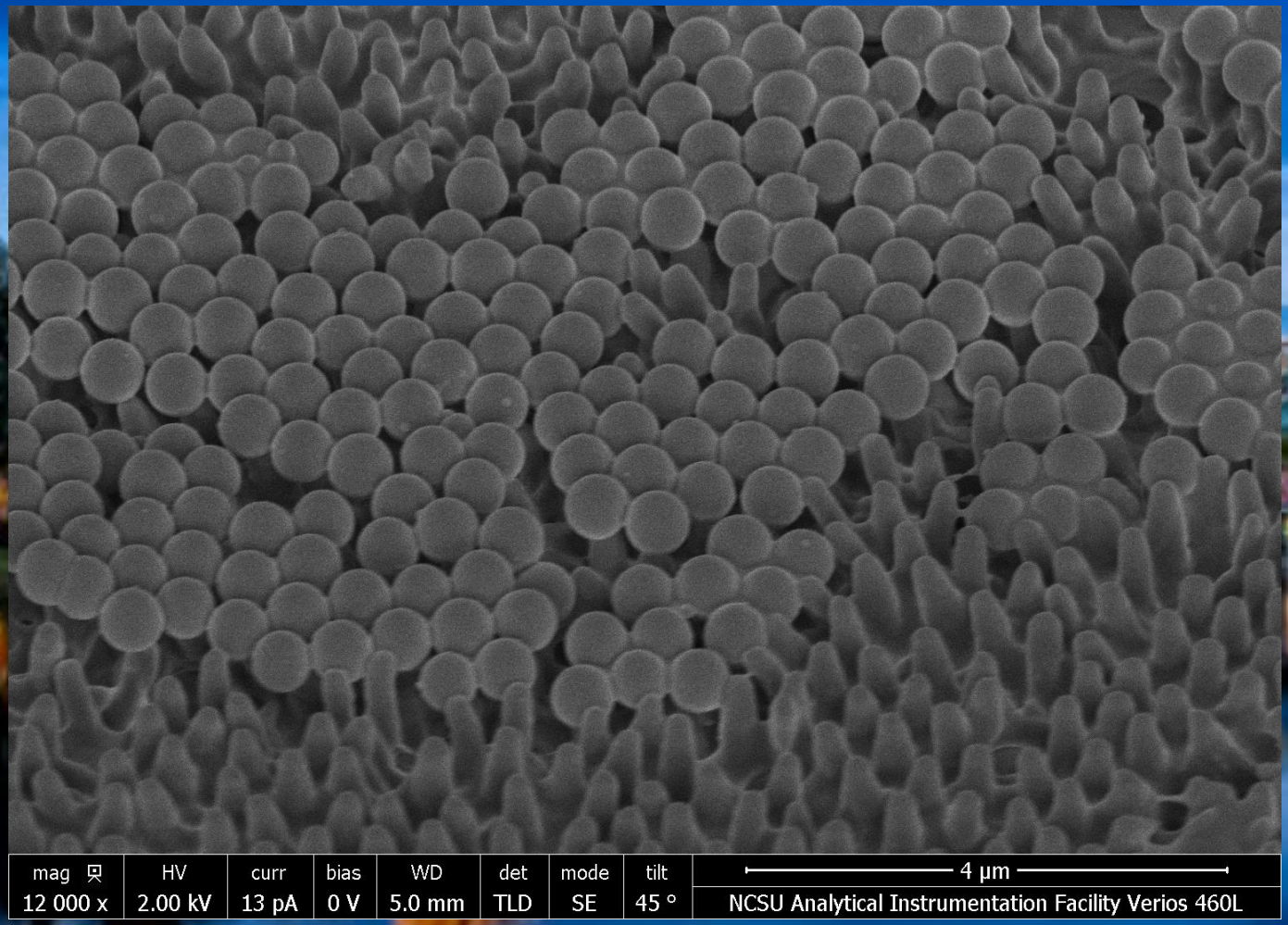
Submitted by: I-Te Chen

Affiliation: North Carolina State Univ., Raleigh, NC

2017 EIPBN MicroGraph Contest

Micrograph Title:
Spawning

Description:
Colorful life start from tiny origins.



Magnification (3"x4" image): 1205X

Instrument : FEI Verios 460L

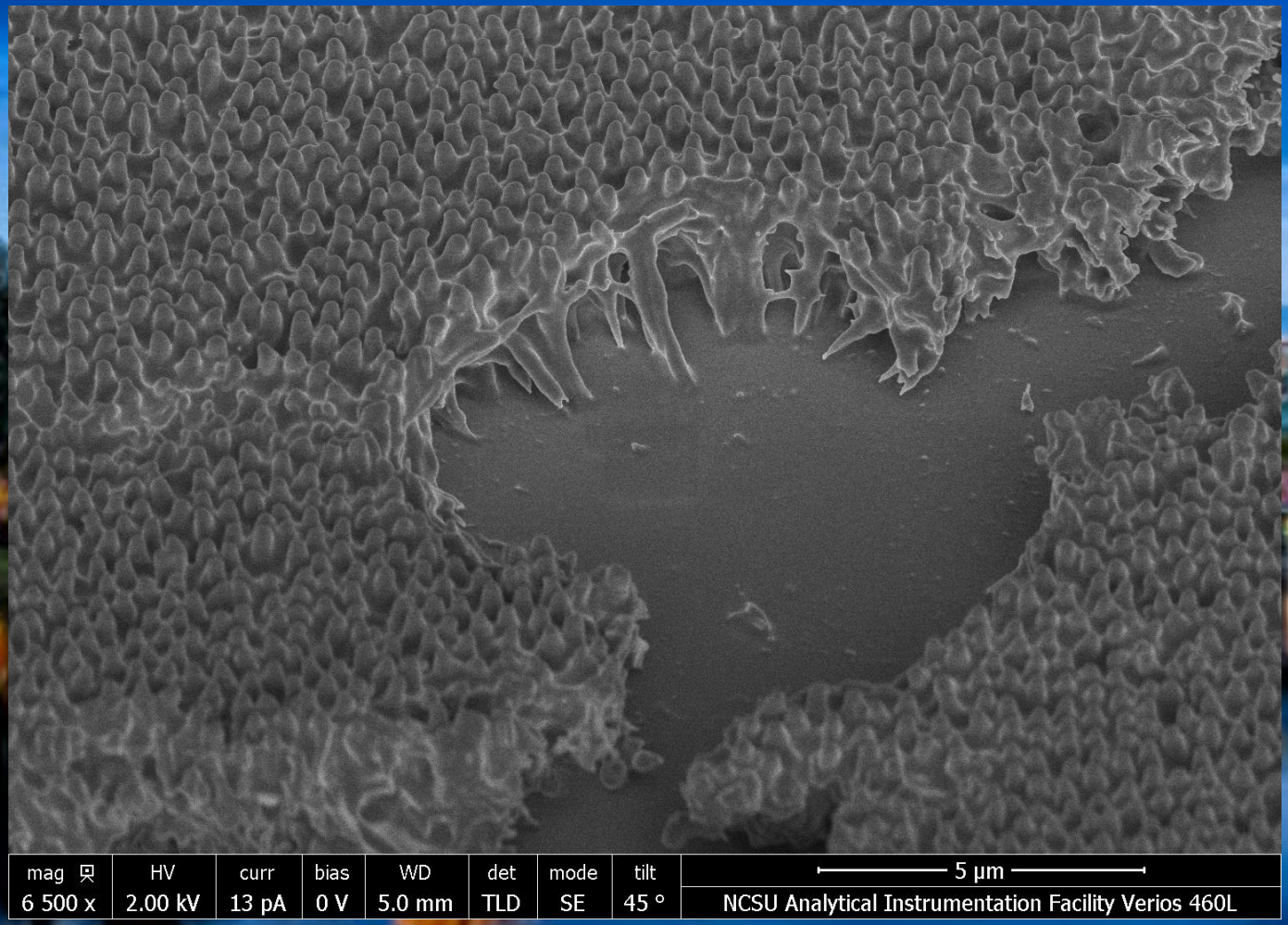
Submitted by: I-Te Chen

Affiliation: North Carolina State Univ., Raleigh, NC

2017 EIPBN MicroGraph Contest

Micrograph Title:
The Virtual Fear

Description:
Sometimes, we just step back for nothing.



Magnification (3"x4" image): 6500X

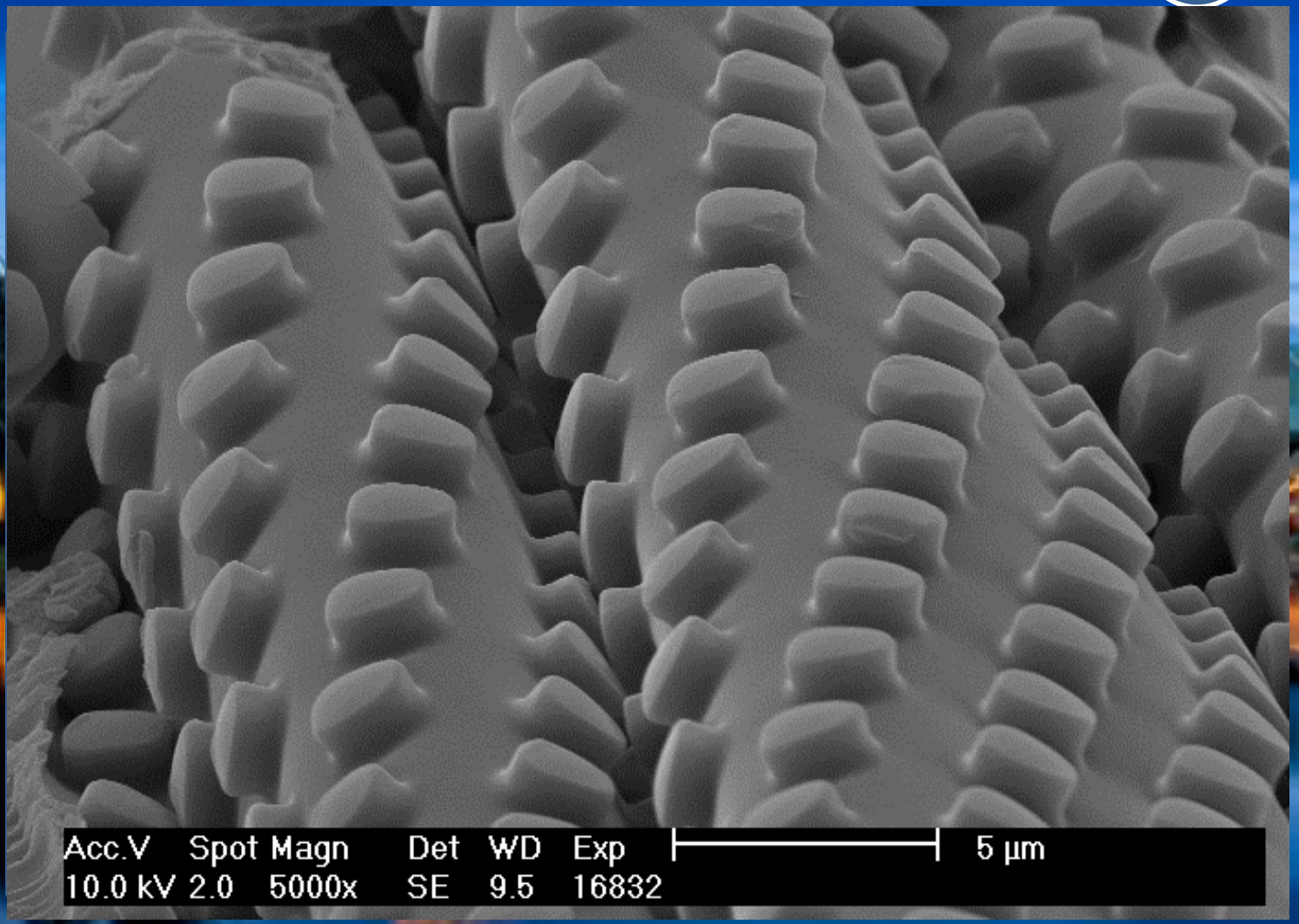
Instrument : FEI Verios 460L

Submitted by: I-Te Chen

Affiliation: North Carolina State Univ., Raleigh, NC

2017 EIPBN MicroGraph Contest

Micrograph Title:
Octopus´s Garden



Description:

"I'd like to be
Under the sea
In an octopus' garden
In the shade
He'd let us in
Knows where we've
been
In his octopus' garden
In the shade"

Beatles

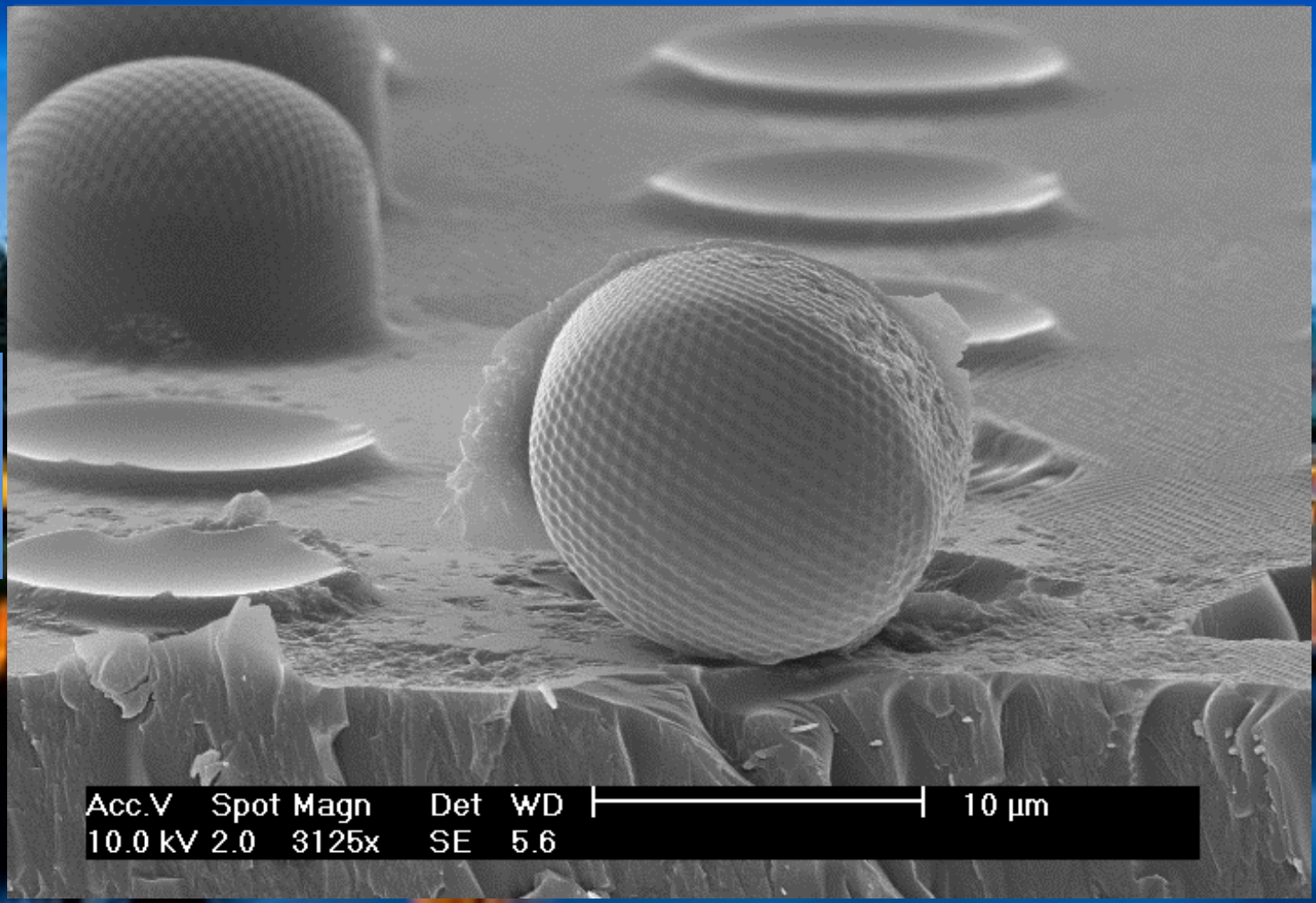
Magnification (3"x4" image): 5KX **Instrument : FEI XL 30S**

Submitted by: Manuel Runkel **Affiliation: University of Wuppertal**

2017 EIPBN MicroGraph Contest

Hand me that golf club!

Description:
T-NIL; combination of micro- and nanostructures in SU-8



Magnification (3"x4" image): 3125X
Submitted by: Iwan Lorenzen

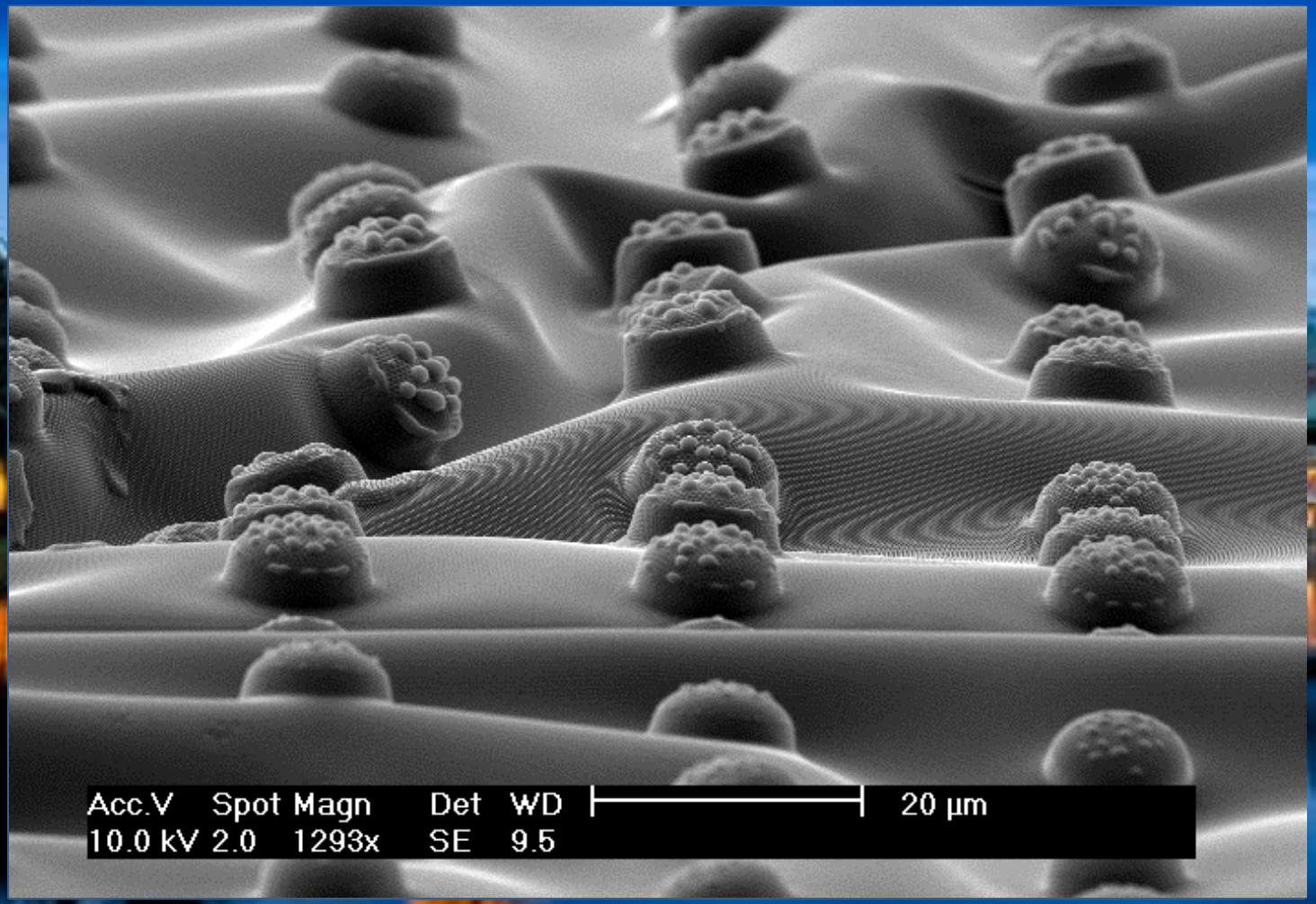
Instrument : FEI/Philips XL 30S FEG
Affiliation: University of Wuppertal Germany

2017 EIPBN MicroGraph Contest

77

Riding the waves.

Description:
T-NIL; combination of micro- and nanostructures in SU-8



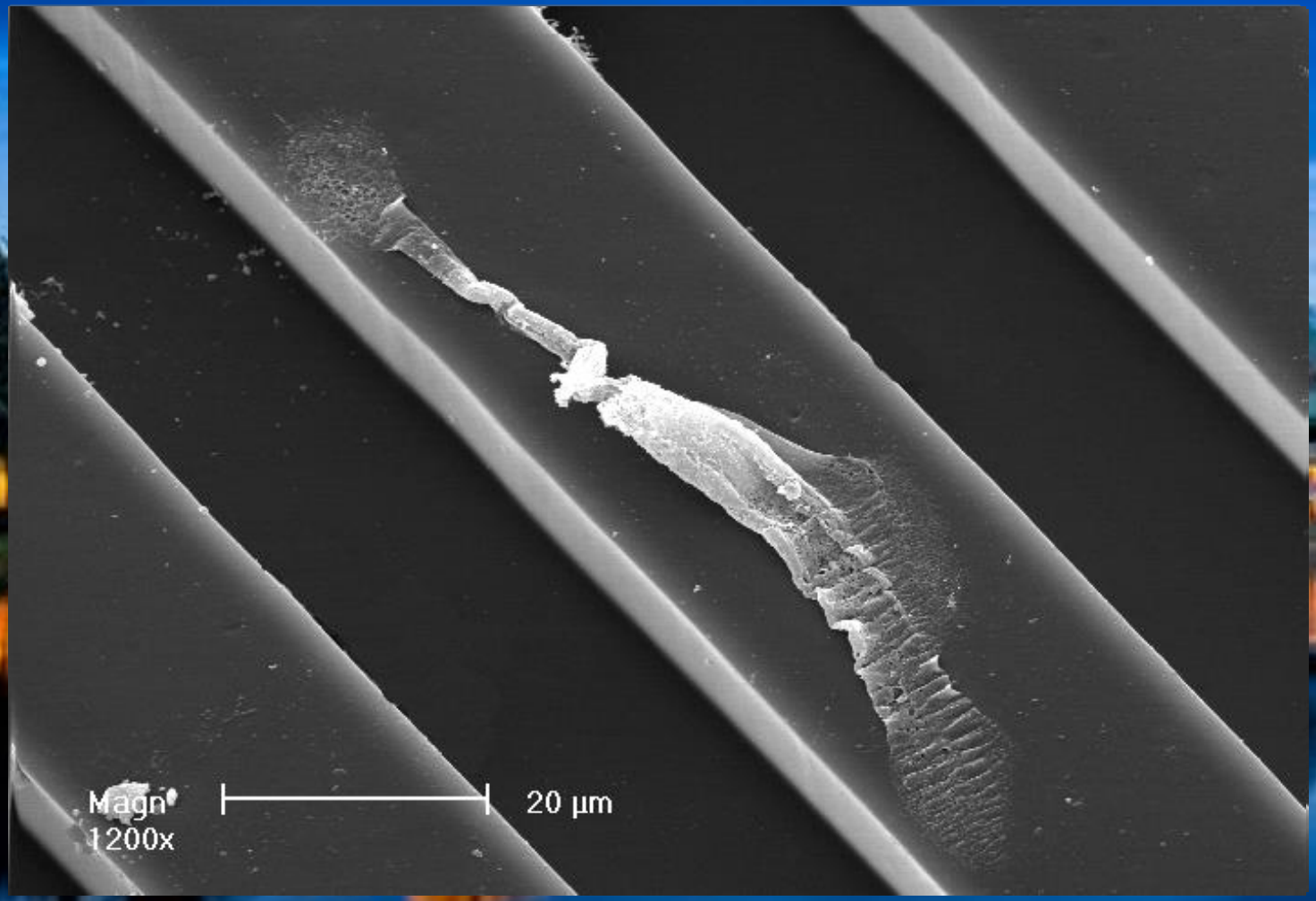
Magnification (3"x4" image): 1293X
Submitted by: Iwan Lorenzen

Instrument : FEI/Philips XL 30S FEG
Affiliation: University of Wuppertal Germany

2017 EIPBN MicroGraph

Micrograph Title:
Ginseng among Nasopharyngeal Epithelial Cells

Description:
Cells on Guiding Pattern Using PDMS. Generating More Energy!



Magnification (3"x4" image): 1200X

Submitted by: Weiguan Zhang

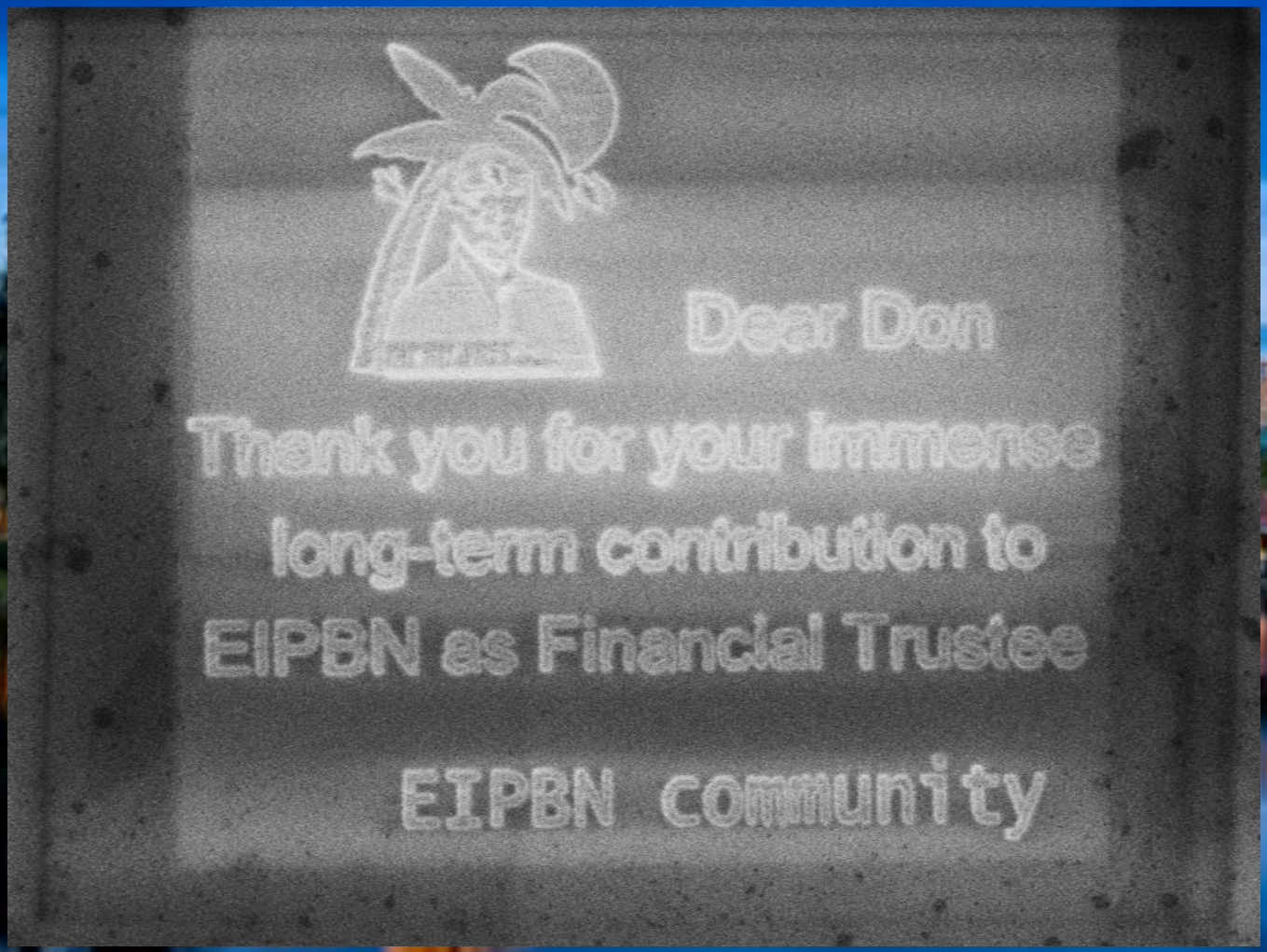
Instrument : Philips XL40 SEM

Affiliation: City University of Hong Kong Hong Kong

2017 EIPBN MicroGraph Contest

Micrograph Title:
Don Tennant
3-Beams Money
~~Pirate~~ Master

Description:
Due to DOE cuts Stefano couldn't afford a plaque



Magnification (3"x4" image): ??KX
Instrument : Molecular Foundry FIB
Submitted by: Stefano Cabrini
Affiliation: Molecular Foundry