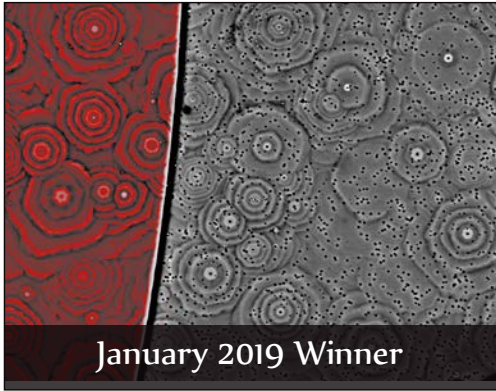


2020 CALENDAR



Featuring 2019 Winning Images





January 2019 Winner



February 2019 Winner



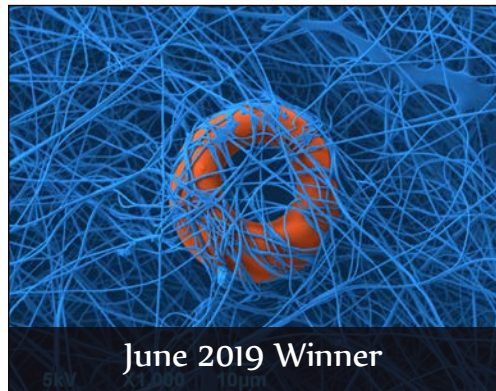
March 2019 Winner



April 2019 Winner



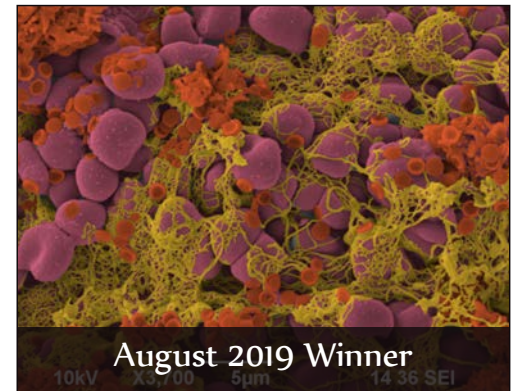
May 2019 Winner



June 2019 Winner



July 2019 Winner



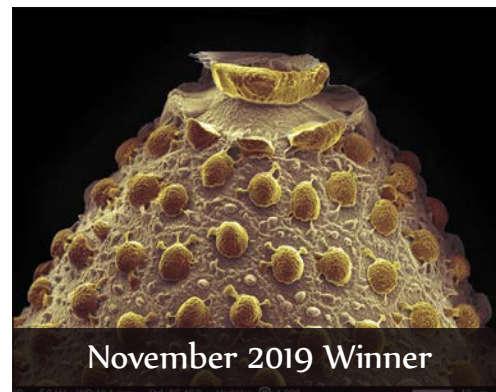
August 2019 Winner



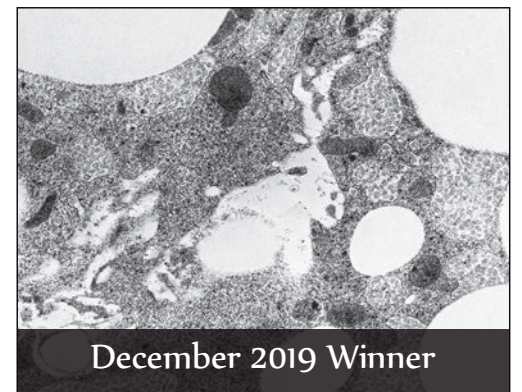
September 2019 Winner



October 2019 Winner



November 2019 Winner



December 2019 Winner

2020 CALENDAR

Featuring 2019 Winning Images

JEOL USA would like to thank all of our customers who submitted images to our Image Contest over the past six years – from 2014 to 2019. We have received many outstanding images that are posted in galleries on our website at www.jeolusa.com/winners.

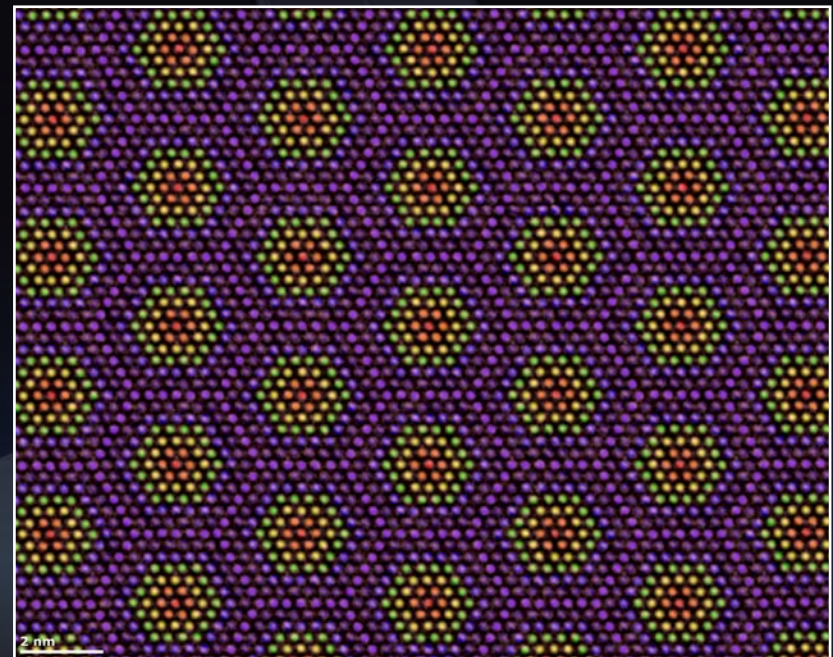
We invite all JEOL SEM, TEM, and EPMA users to enter the JEOL USA 2020 Image Contest. A prize is awarded to the owner of the winning image for each month, and the contest culminates in two Grand Prize winners announced at the end of the year. See our website for contest guidelines.



MXene Bee ♦ Grand Prize SEM Image

A fully oxidized two-dimensional (2D) vanadium carbide MXene particle, false colors, resembles a bee.

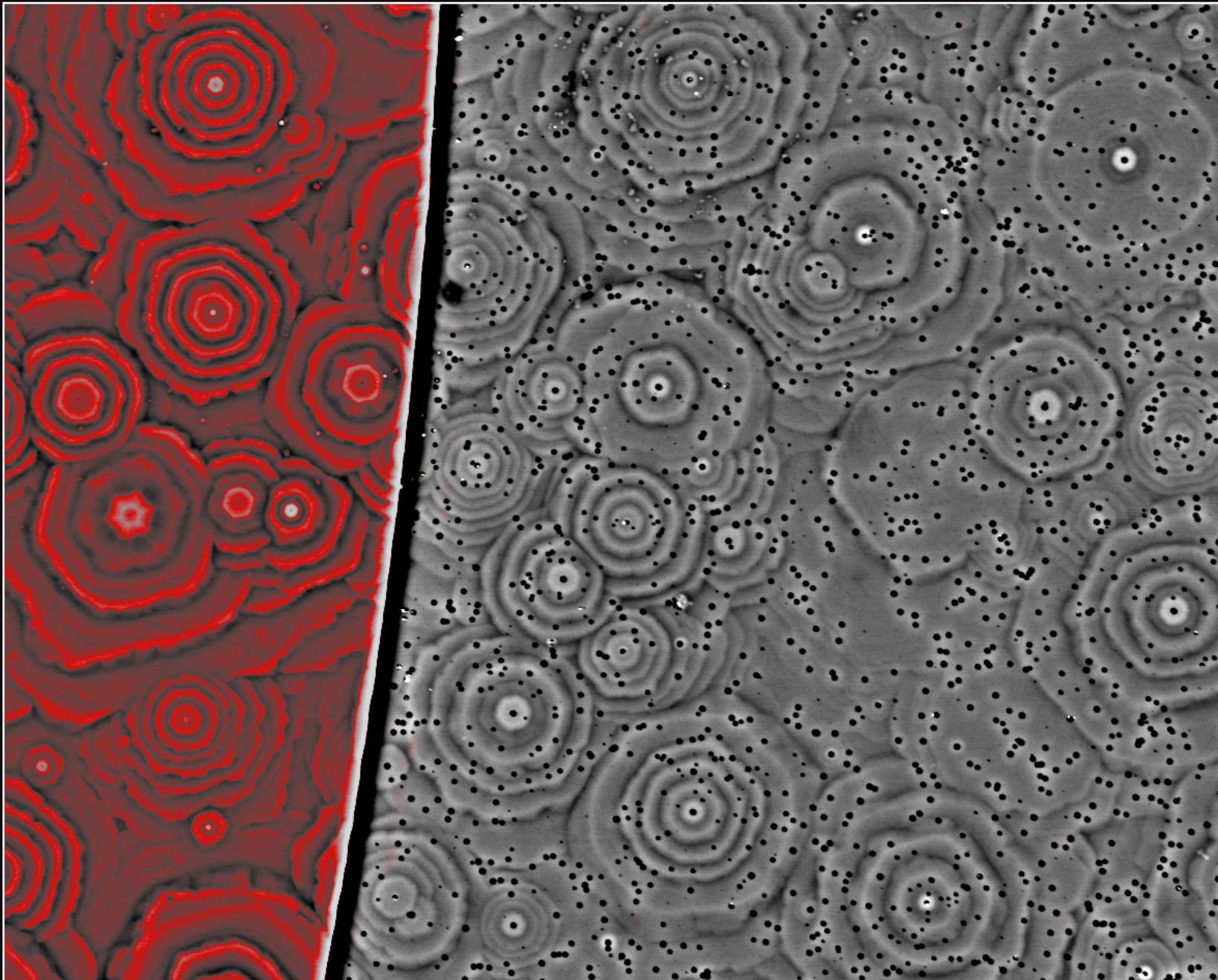
Armin VahidMohammadi, Auburn University - JEOL JSM-7000F SEM.



Magnesium ♦ Grand Prize TEM Image

Hexagonal lattice of magnesium. Lattice aligned to [0001] zone axis and artificial colour applied to emphasise the hexagonal symmetry.

Dr. Lawrence Whitmore, University of Salzburg, Chemistry and Physics of Materials, Materials Science and Mineralogy - JEOL JEM-F200 TEM



Hillock Flowerbed

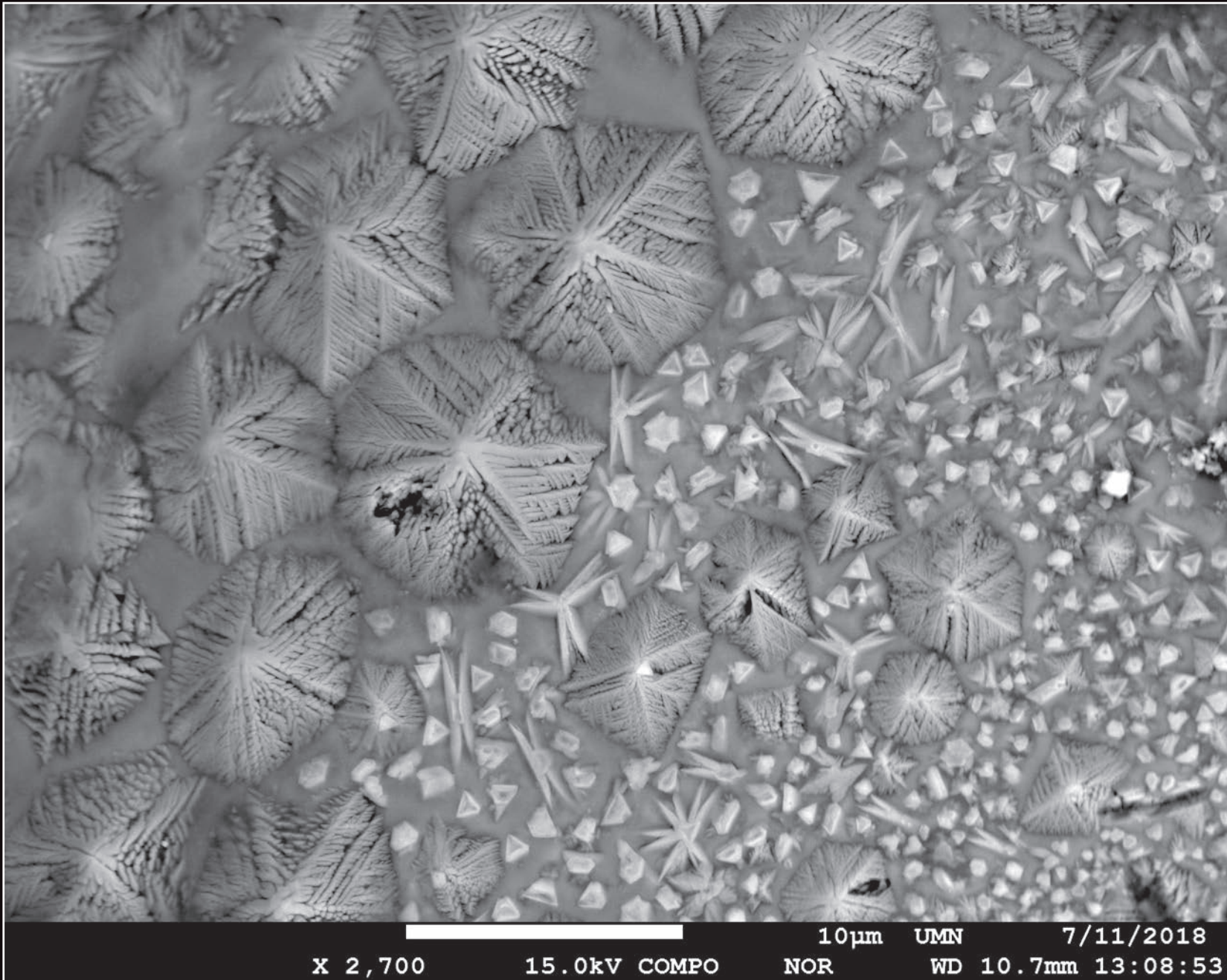
BSE image showing surface morphology of n-doped GaN with many v-pits and hillock features (right) and of a p-i-n diode (left) in which hillocks remain, but the v-pits have been filled in by the p-doped GaN.

Catherine Brassier, University of Strathclyde - JEOL JXA-8530F EPMA



January 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---------|------------------|----------|--------|------------------------|
| | | | New Year's Day 1 | 2 | 3 | 4 |
| 11th Multidimensional Chromatography Workshop Honolulu, Hawaii January 5-7, 2020 5 | Winter School on HR EM Arizona State University January 6-10, 2020 6 | 7 | 8 | 9 | 10 | 11 |
| 6th Winter School on Biomolecular Solid State NMR Stowe, Vermont January 5-10, 2020 | | | | | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | Martin Luther King, Jr. Day 20 | 21 | 22 | 23 | 24 | Chinese New Year 25 |
| 26 | 27 | 28 | 29 | 30 | 31 | |



Frozen

Crystallites on the surface of a micrometeorite - BSE Image
Anette von der Handt, University of Minnesota - JEOL JXA-8530FPLUS EPMA



February 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | | | |
|--|-----------------------------|----------------------|---|----------|--|----------|----|----|----|
| | | | | | | 1 | | | |
| 2 | Constitution Day (Mexico) 3 | 4 | 5 | 6 | 7 | 8 | | | |
| 9 | 10 | 11 | 12 | 13 | Valentine's Day 14 | 15 | | | |
| 16 | President's Day 17 | 18 | AAFS - American Academy of Forensic Sciences Anaheim, CA February 19-21 Winter School on HR EM Arizona State University | 19 | 20 | 21 | 22 | | |
| Marine Natural Products Gordon Conference Ventura, CA February 23-28, 2020 Winter School on HR EM Arizona State University | 23 | Flag Day (Mexico) 24 | SPIE Advanced Lithography San Jose, CA February 25-26, 2020 Winter School on HR EM Arizona State University | 25 | Ash Wednesday Emerald Conference San Diego, CA February 26-29, 2020 Winter School on HR EM Arizona State University | 26 | 27 | 28 | 29 |



SEM



MXene Bee

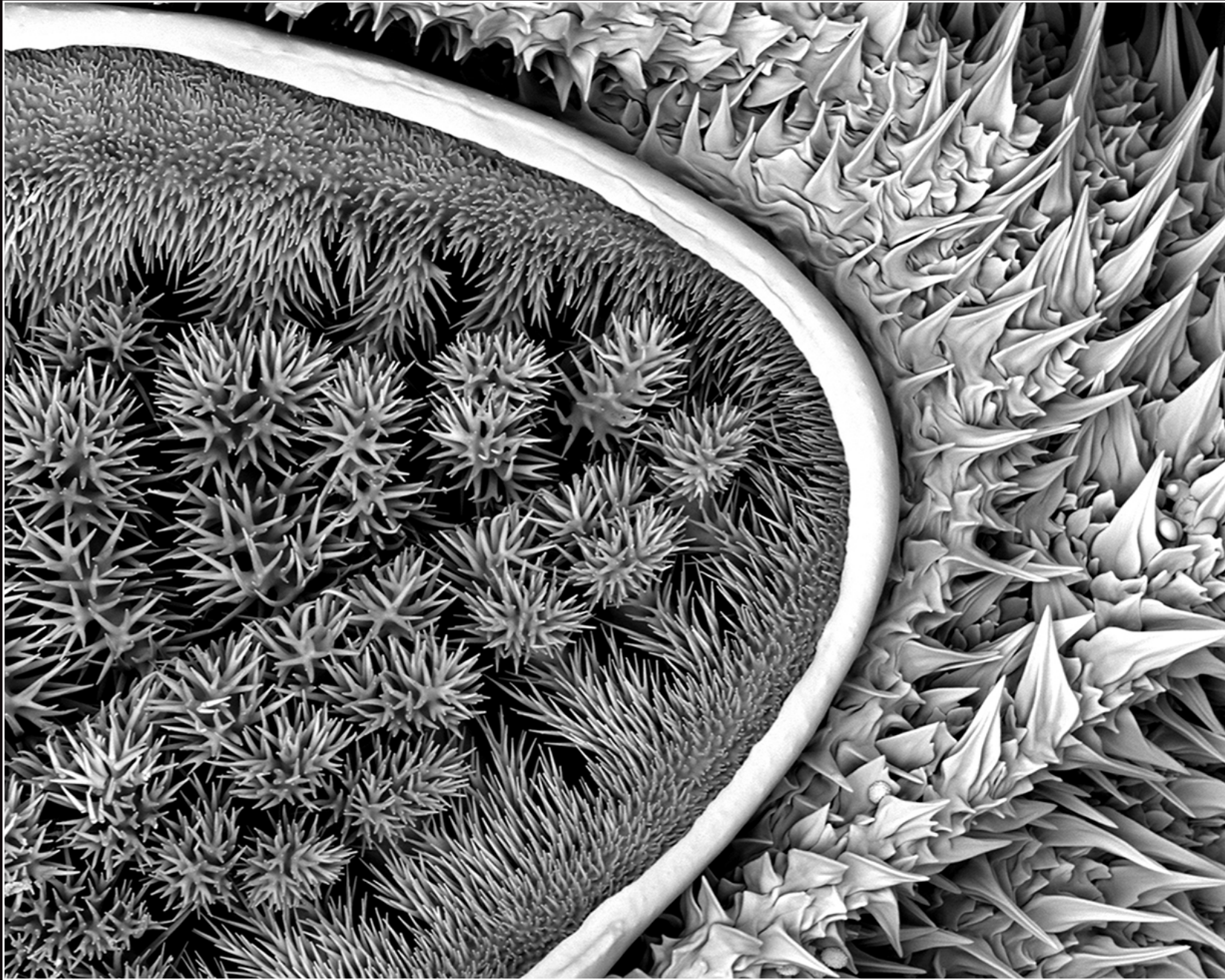
A fully oxidized two-dimensional (2D) vanadium carbide MXene particle, false colors, resembles a bee.

Armin Vahid Mohammadi, Auburn University - JEOL JSM-7000F SEM.



March 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|--------|---|-----------|---------------------|---|----------|
| 1 | 2 | PITTCON Chicago, IL March 3-5, 2020 3 | 4 | 5 | 6 | 7 |
| Daylight Savings Begins ENC NMR – 61st Experimental Nuclear Magnetic Resonance Conference March 8-13, 2020 Baltimore, MD 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | St. Patrick's Day GOMAC TECH San Diego, CA March 17-18, 2020 17 | 18 | Spring Begins 19 | Arizona Imaging & Microanalysis Society March 20, 2020 Tempe, AZ 20 | 21 |
| ACS Spring March 22-24, 2020 Philadelphia, PA 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |



Spiky Caterpillar

The microstructure of a black and white spiky caterpillar.
Sheri Neva, Eurofins - EAG Los Angeles - JEOL JSM-6610 SEM

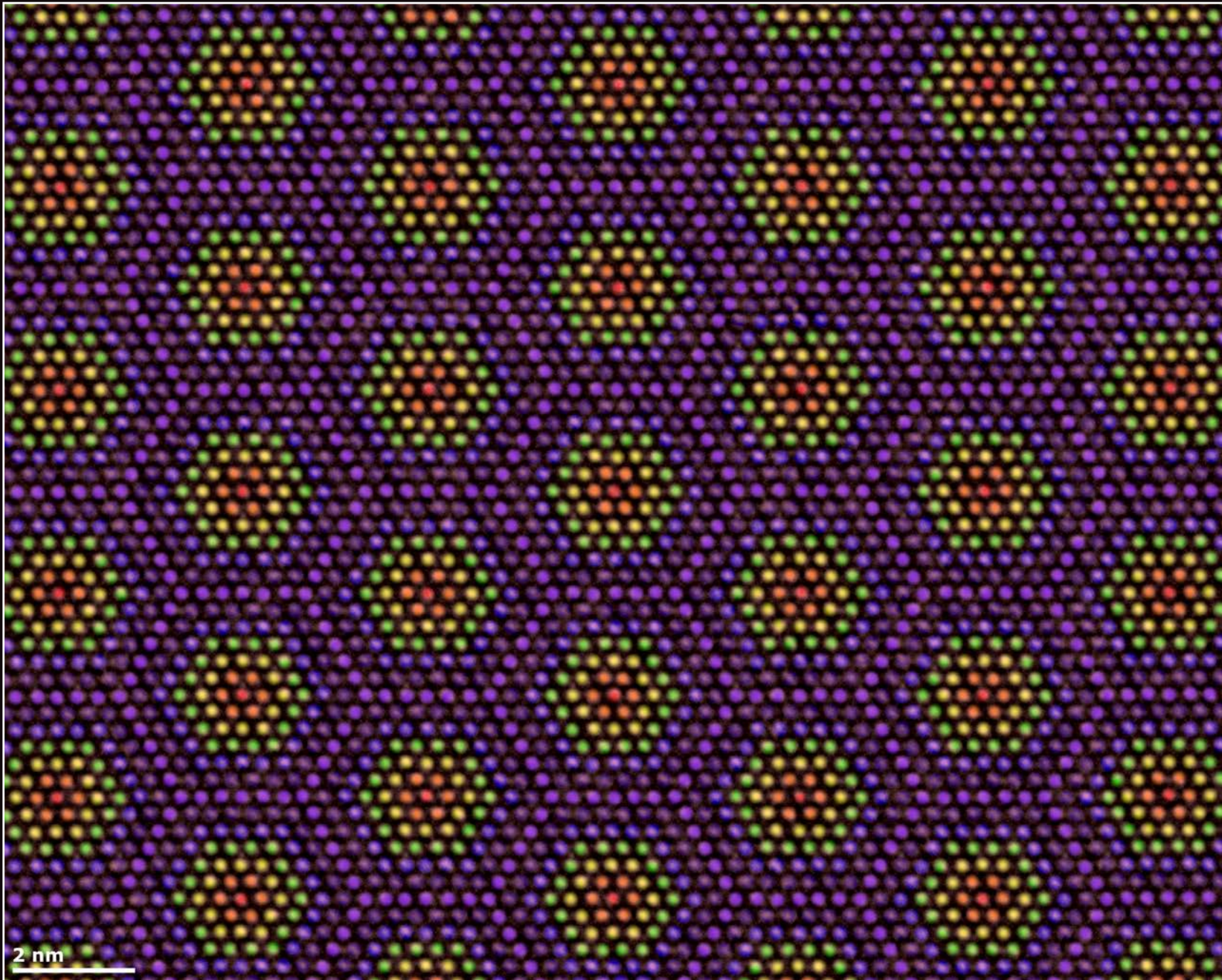


April 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|--|------------------------------------|----------|---|----------|
| | | | 1 | 2 | 3 | 4 |
| Palm Sunday 5 | 6 | 7 | Passover Begins at Sundown 8 | 9 | Good Friday 10 | 11 |
| Easter 12 | Easter Monday (Canada) 13 | Drug Discovery Chemistry San Diego, CA April 14-16, 2020 14 | 15 | 16 | 17 | 18 |
| Eastern Orthodox Easter 19 | 20 | 21 | Earth Day 22 | 23 | NESM Spring Woods Hole, MA August 24-25, 2020 24 | 25 |
| PANIC NMR Lajolla, CA April 26-30, 2020 26 | AOCS Montreal, Quebec, Canada April 27-29, 2020 27 | 28 | 29 | 30 | | |



TEM



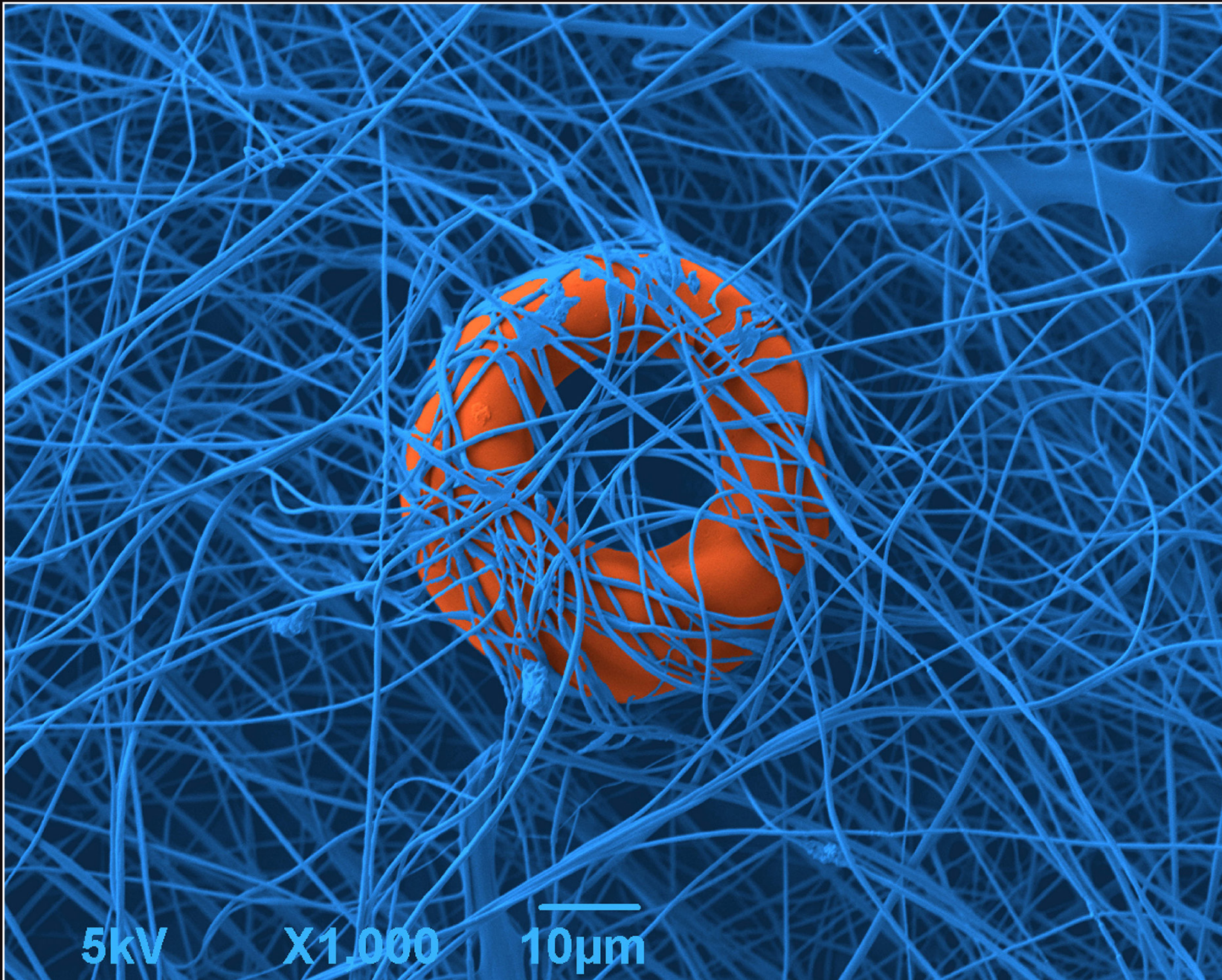
Magnesium

Hexagonal lattice of magnesium. Lattice aligned to $[0001]$ zone axis and artificial colour applied to emphasise the hexagonal symmetry.
Dr. Lawrence Whitmore, University of Salzburg, Chemistry and Physics of Materials, Materials Science and Mineralogy - JEOL JEM-F200 TEM



May 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | | |
|--|--|--|-----------|--|------------------------------------|----------|----|------------------------|
| | | | | | May Day Labor Day (Mexico) 1 | 2 | | |
| 3 | 4 | Cinco de Mayo Battle of Puebla Day (Mexico) Ceramics Expo Cleveland, OH May 5-6, 2020 | 5 | 6 | 7 | 8 | | |
| Mother's Day 10 | CS Mantech Tucson, AZ May 11-14, 2020 Delaware Valley Mass Spec Discussion Group Evanston, IL | 11 | 12 | MAAFS - Mid-Atlantic Assoc. of Forensic Scientists Newport News, VA May 13-14, 2020 SEMS Southeastern Microscopy Society Jacksonville Beach, FL May 13-15, 2020 | 13 | 14 | 15 | Armed Forces Day 16 |
| 17 | Victoria Day (Canada) 18 | 19 | 20 | 21 | 22 | 23 | | |
| 24 | Memorial Day 25 | EIPBN – Electron, Ion, and Photobeam Technology and Nanofabrication New Orleans, LA May 26-29 | 26 | 27 | 28 | 29 | 30 | |
| ASMS Houston, TX May 31-June 4, 2020 31 Lehigh Microscopy School Bethlehem, PA May 31-June 5, 2020 | | | | | | | | |



Trapped

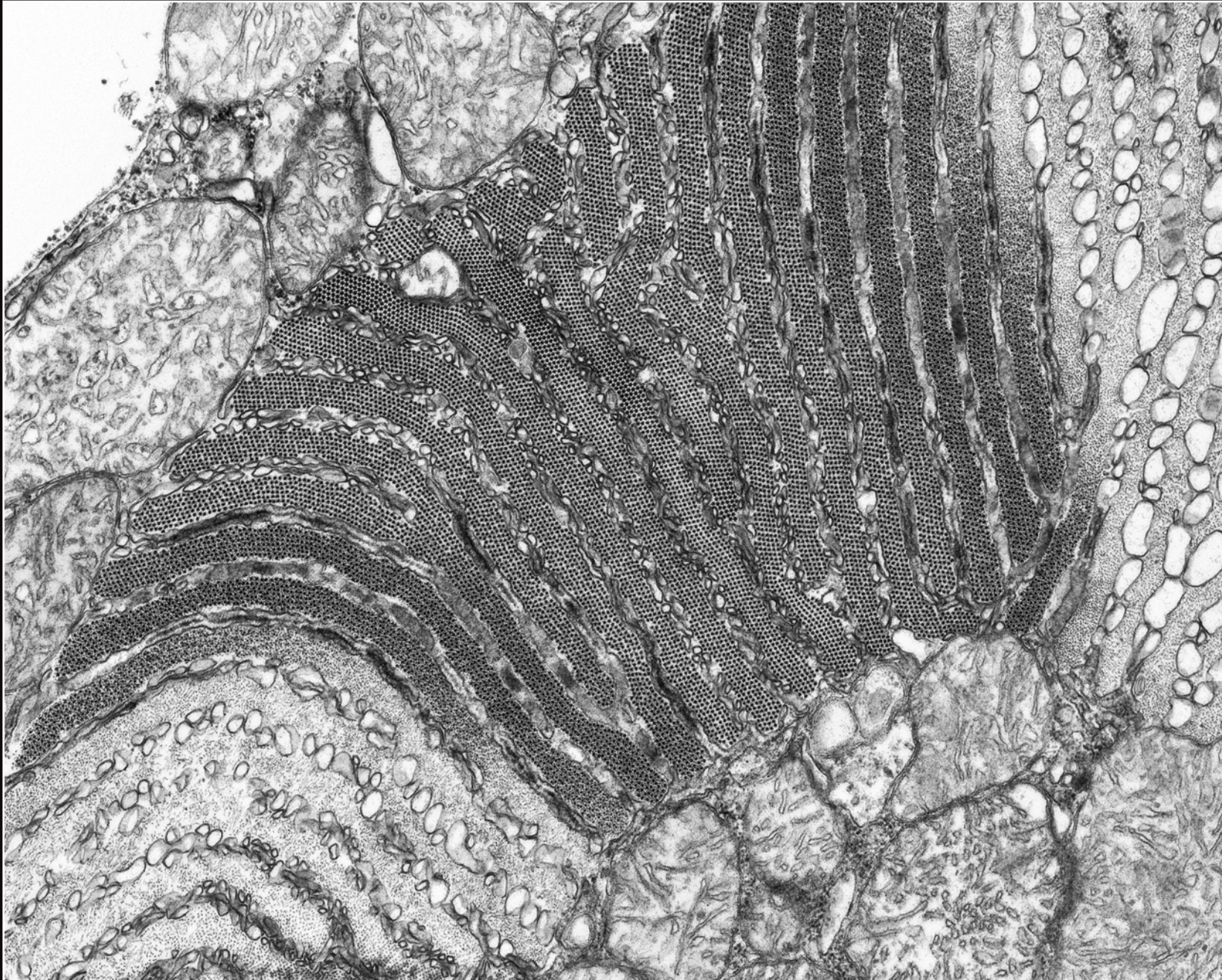
Blood platelet trapped in silk fibers.

Simone Lauciello, IIT - Fondazione Istituto Italiano di Tecnologia - JEOL JSM-6490LA



June 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | |
|--|--------|---|-----------|---------------------------------|--------|----------|---------------|
| ASMS – American Society of Mass Spectrometry Houston, TX May 31-June 4, 2020 Lehigh Microscopy School Bethlehem, PA May 31-June 5, 2020 | 1 | MSC - Microscopical Society of Canada Sherbrooke, QC, Canada June 2-4, 2020 | 2 | 3 | 4 | 5 | D-Day 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| Flag Day 14 | 15 | 16 | 17 | 18 | 19 | 20 | Summer Begins |
| Father's Day (PSNA) Phytochemical Society of North America British Columbia, Canada June 21-24, 2020 | 21 | 22 | 23 | St. Jean Baptiste Day (Que.) 24 | 25 | 26 | 27 |
| NORM Bellingham, Washington June 28-July 1, 2020 | 28 | TechConnect World National Harbor, MD June 29-July 1, 2020 | 29 | 30 | | | |



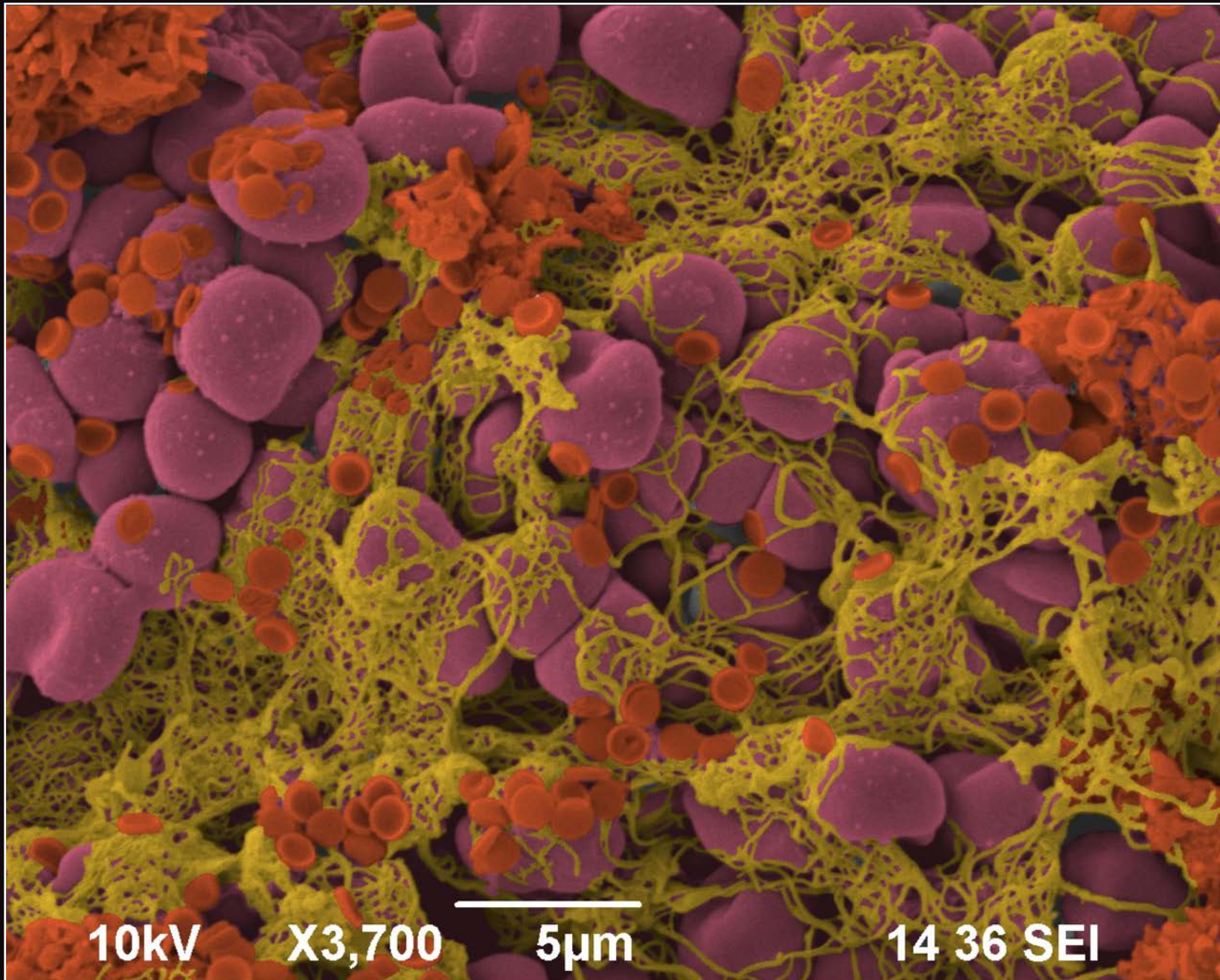
Wilson!

Cross-section of sound-producing muscle fiber in the type 1 midshipman fish.
Patrick Nahirney, Division of Medical Sciences, University of Victoria - JEOL JEM-1400 TEM



July 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|--------|---|--------------------------|----------|--------|--|
| | | | Canada Day (Canada) 1 | 2 | 3 | Independence Day 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | BCCE - Biennial Conf. on Chemical Ed. Corvallis, OR July 18-23, 2020 18 |
| 19 | 20 | SEMICON West San Francisco, CA July 21-23, 2020 RMC Magnetic Resonance Copper Mountain, CO July 21-23, 2020 21 | 22 | 23 | 24 | ASP - Amer. Soc. of Pharmacognosy San Francisco, CA July 25-30, 2020 25 |
| 26 | 27 | 28 | 29 | 30 | 31 | |



Blood Clot

Red blood cells, Fibrin and DPNs (polymeric nanoparticles)

Simone Lauciello, IIT - Fondazione Istituto Italiano di Tecnologia - JEOL JSM-6490LA SEM



August 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---------|-----------|----------|--------|---|
| | | | | | | 1 |
| IAFP - Int'l. Assoc. for Food Protection - Cleveland, OH August 2-4, 2020 2 | Civic Holiday (Canada) 3 M&M - Microscopy & Microanalysis Milwaukee, MN August 3-6, 2020 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| ACS Fall San Francisco, CA August 16-20, 2020 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| ICMRBS Int'l Conf of Magnetic Resonance Boston, MA August 23-28, 2020 23 | 24 | 25 | 26 | 27 | 20 | IMSC - Int'l Mass Spec Conference Rio de Janeiro, Brazil August 29-September 4, 2020 29 |
| 30 | 31 Cannabis Science Conf. West Portland, OR August 31-September 1 | | | | | |



Iguana Amazon!

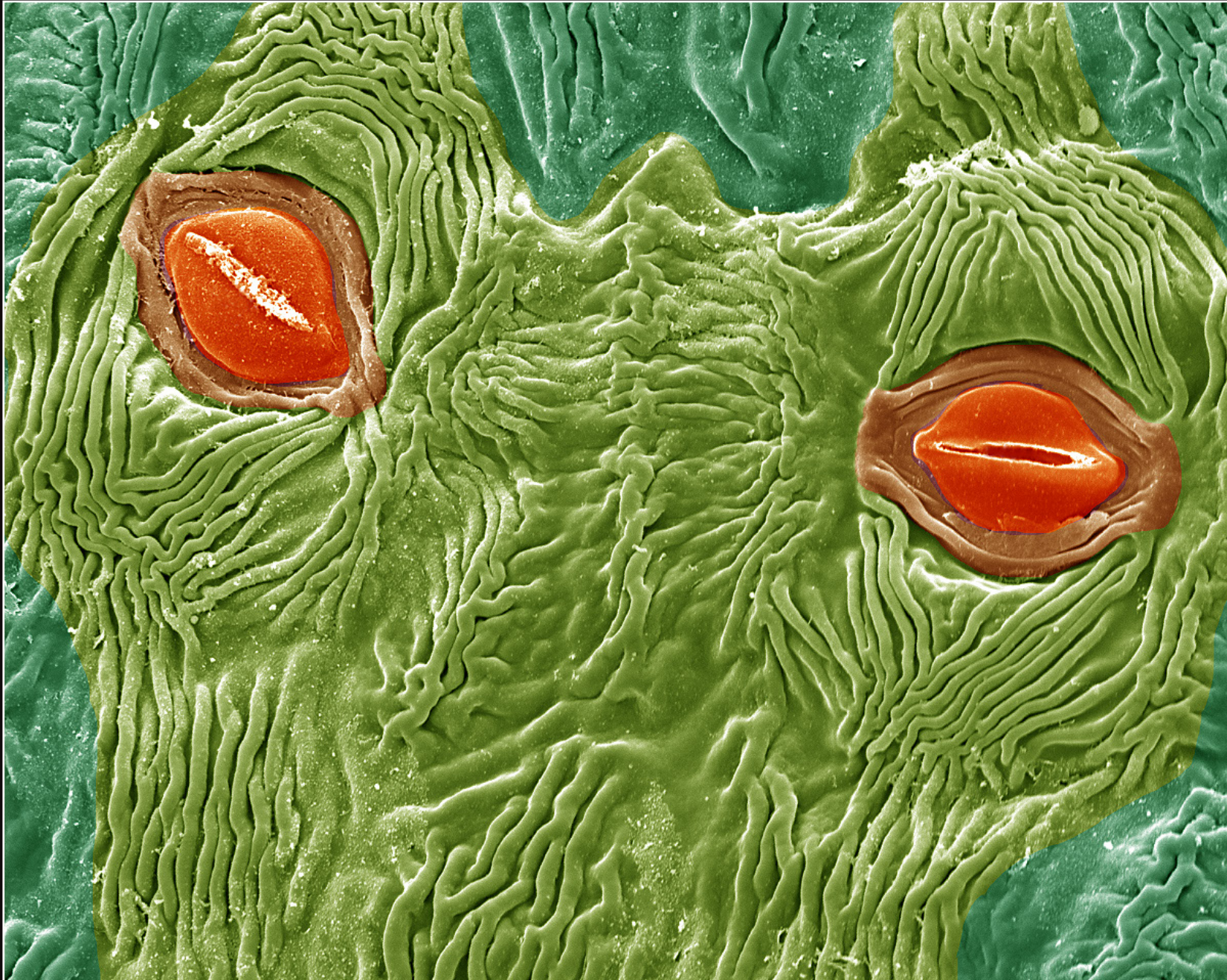
Euphorbia milii anthera details

Rachel Rachid, Jander Matos, and Diego Regalado, Center for Analysis of Biomedical Phenomena of the University of State of Amazonas, CMABio/UEA - JSM-IT500HR SEM



September 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--|--|---|---------------------------------|----------|---------------------------------------|----------|
| IMSC - Int'l Mass Spec Conference Rio de Janeiro, Brazil August 29-September 4, 2020 | Cannabis Science Conf. West Portland, OR August 31-September 1 | 1 | 2 | 3 | 4 | 5 |
| 6 | Labor Day 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | SMASH NMR San Diego, CA September 14-16, 2020 14 | IMAT - Int'l. Materials Applications & Technologies Cleveland, OH September 15-17, 2020 15 | Independence Day (Mexico) 16 | 17 | Rosh Hoshanah Begins at Sundown 18 | 19 |
| 20 | SOFT - Society of Forensic Toxicologists San Diego, CA September 21-25, 2020 21 | Autumn Begins 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | | | |



"Alien" Plant

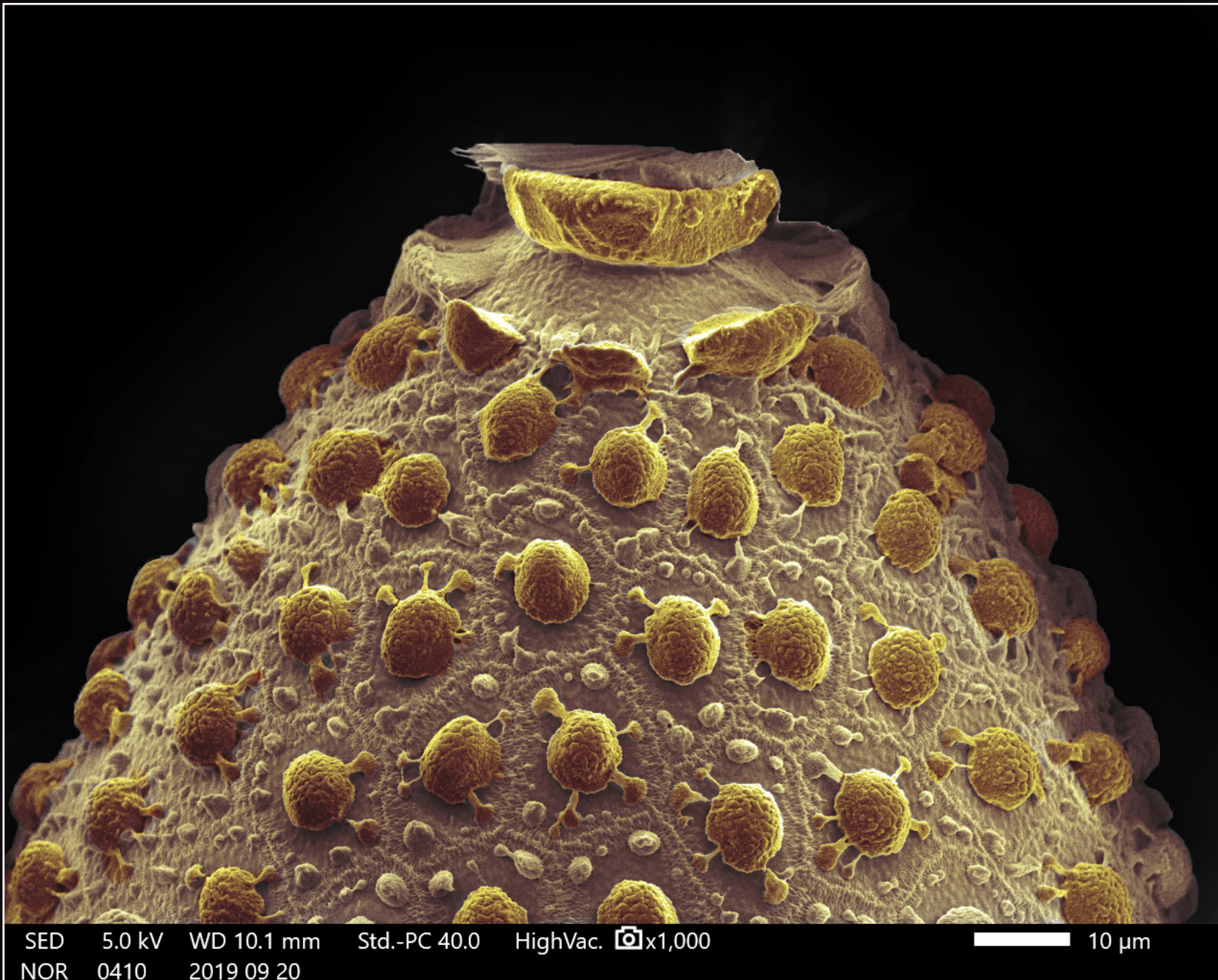
Stomata on the floral bract of corpse flower (*Amorphophallus titanum*)

Vijayasankar Raman, The University of Mississippi - JSM-5600 SEM



October 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | | | | |
|-------------------------|---|---|-----------|---|--------|---|-----------|----|----|----|
| | | | | 1 | 2 | 3 | | | | |
| 4 | 5 | MS&T Materials Sci & Tech Pittsburgh, PA October 6-7, 2020 | 6 | 7 | 8 | 9 | 10 | | | |
| SOFT San Antonio, TX | 11 | Columbus Day Thanksgiving (Canada) | 12 | Gulf Coast Conference Galveston, TX October 13-14, 2020 | 13 | SERMACS - Southeastern Regional Meeting of ACS New Orleans, LA October 14-17, 2020 | 14 | 15 | 16 | 17 |
| SERMACS Savannah, GA | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | |
| 25 | AAPS - American Assoc. of Pharmaceutical Scientists New Orleans, LA October 26-28, 2020 | 26 | 27 | 28 | 29 | 30 | Halloween | 31 | | |



Cheese Volcano

Egg surface of mosquito *Aedes aegypti*

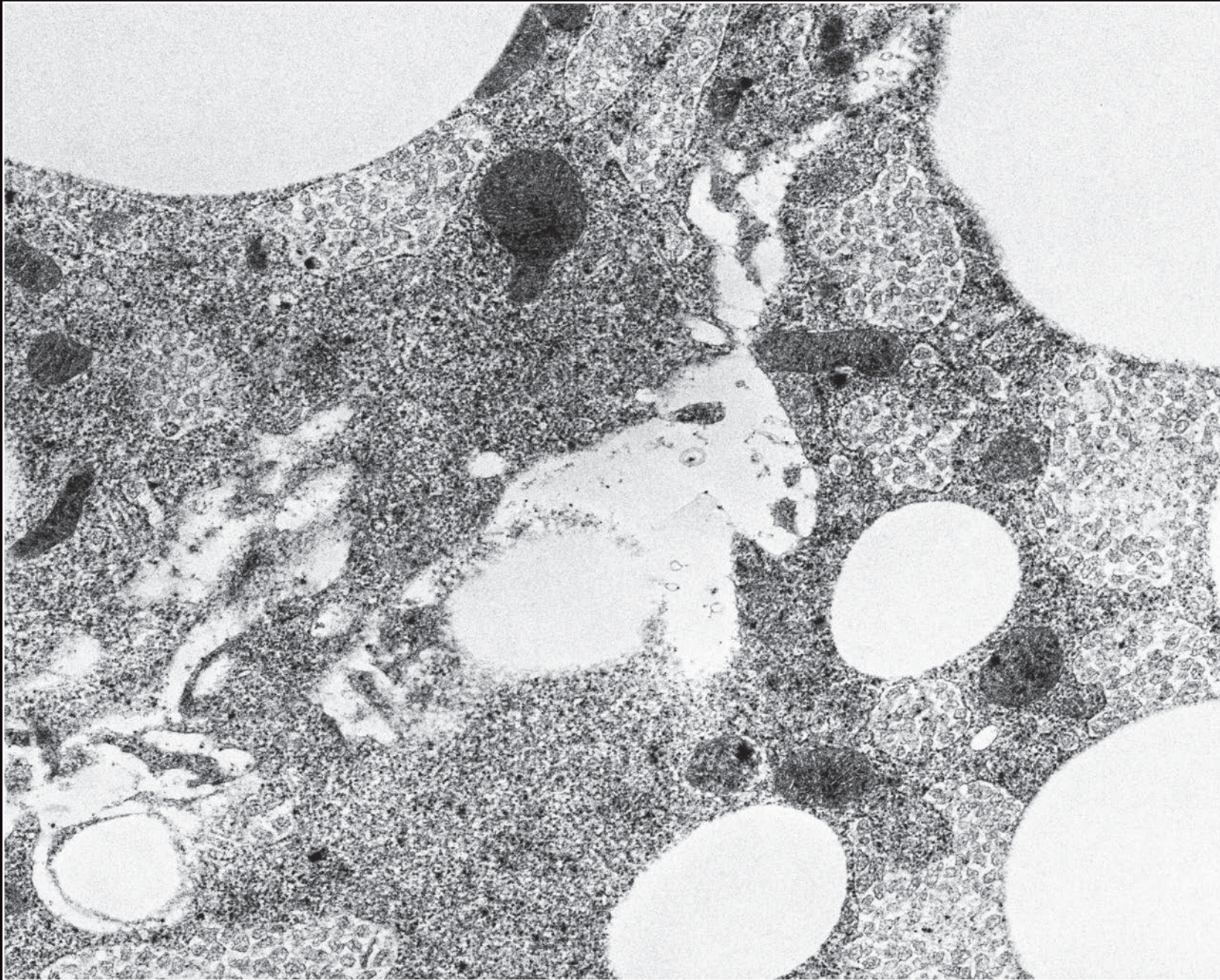
Rachel Rachid, Jander Matos, Diego Regalado

Center for Analysis of Biomedical Phenomena of the University of State of Amazonas - CMABio/UEA - JEOL JSM-IT500HR SEM



November 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|----------------------------|----------------------------------|---|--|--------------------|--------|----------|
| Daylight Savings Ends 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | Veteran's Day Remembrance Day (Canada) 11 | 12 | 13 | 14 |
| 15 | Revolution Day (Mexico) 16 | EAS - Eastern Analytical Symposium & Expo Plainsboro, NJ November 16-18, 2020 ISTFA Pasadena, CA November 17-18, 2020 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | Thanksgiving 26 | 27 | 28 |
| 29 | 30 | | | | | |



Lipid Reindeer

Fat body Lipids inside 3rd Instar *Drosophila Melanogaster* larvae
Lita Duraine, Howard Hughes Medical Institute - JEOL 1400 Plus



December 2020

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|---------------------|---|-----------|-------------------------------------|-----------------|--|
| | | MRS - Materials Research Society Boston, MA December 1-3, 2020 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | Hanukkah Begins at Sundown 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | Winter Begins 21 | 22 | 23 | 24 | Christmas 25 | Boxing Day (Canada) 26 Kwanzaa Begins |
| 27 | 28 | 29 | 30 | New Year's Eve 31 | | |



Visit www.jeolusa.com/winners to see all the images submitted for the JEOL Image Contest or to submit your own.
See our most current schedule of events on our website.

www.jeolusa.com