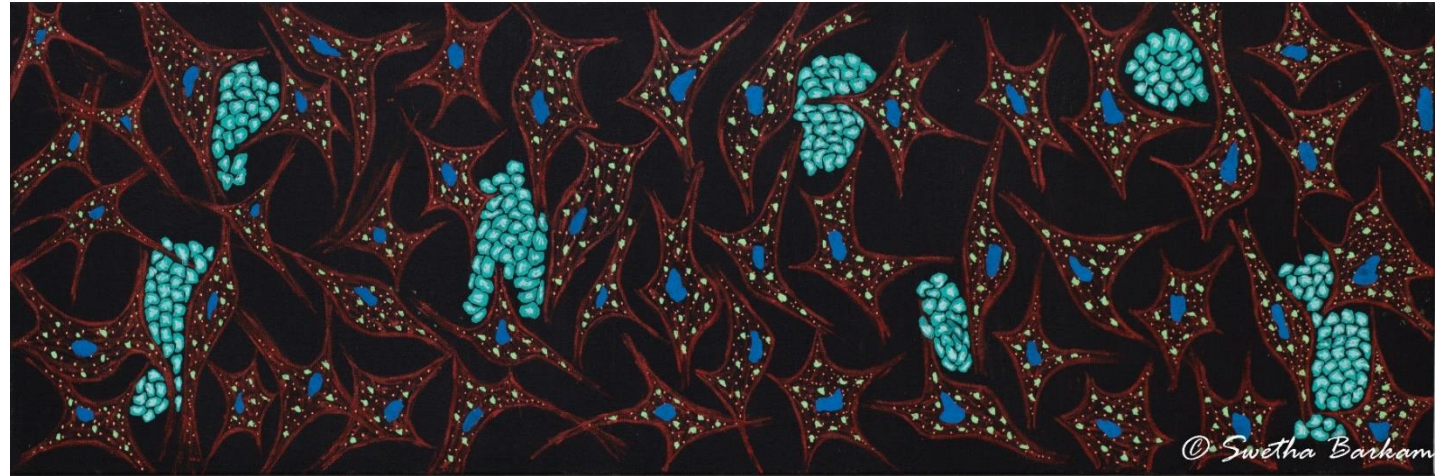


ACerS PCSA 1st Creativity Competition (2016) – Winners



*2016 Scientific Creativity Award
“EBSD Pendant”
by Matt Michie*



*2016 Artistic Creativity Award
“The Cell Culture Invasion”
by Swetha Barkam*

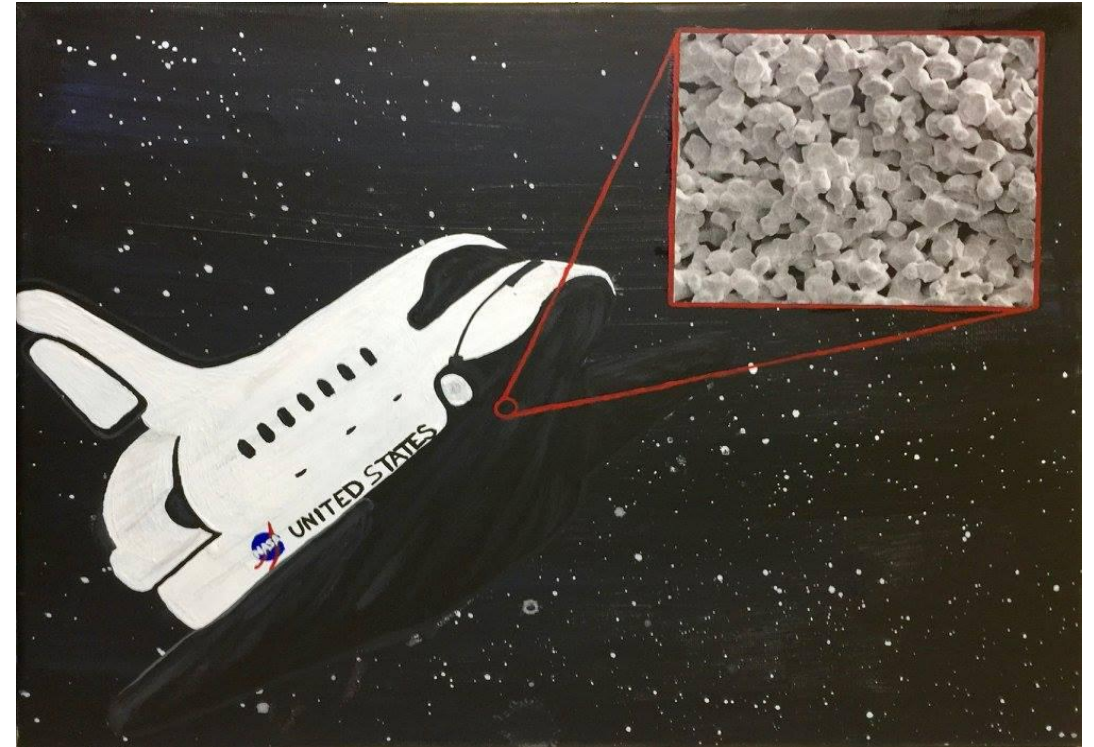


*2016 Viewer’s Choice Award
“Fused Jellyfish” by Ashley McClain*

ACerS PCSA 2nd Creativity Competition (2017) – Winners



*2017 Artistic Creativity Award,
“Blue Planet”
by Laura Aalto-Setälä*



*2017 Scientific Creativity and Viewer's Choice Award
“UHTC”
by Catalina Young*

ACerS PCSA 3rd Creativity and Microstory Competition (2018) – Winners



*2018 Artistic Creativity Award,
“Skyward”
by Briana Bennett*



*2018 Artistic Creativity Award,
“Polar Crack”
by Rodolfo Fernandez and Xialong Lu*

**The 2018 Creativity Competition resulted
in a tie between the two artworks
shown above.**

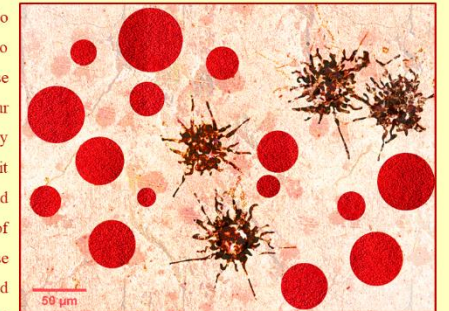
See next page for additional 2018 awardees

2018 Microstory Competition awardee shown below.

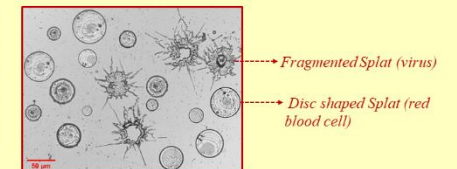
*2018 Scientific Creativity Award,
“Common Cold and Splats”
by Sadhana Bhusal*

Common Cold and Splats

Ugh-this common cold again, it's the third time this year- I say to myself, as I am trying to work with the optical microscope. Rhino virus I remember from my high school biology class. How these small viruses, in the range of nanometers, are able to weaken our immune system, I wonder. After looking into the splat morphology of plasma sprayed aluminum oxide through optical microscope, it got me thinking, how similar they look like red blood cells and viruses present in our blood stream. Splats are building blocks of plasma sprayed coatings. The shape and arrangement of these splats determine the properties of coatings. The disk shaped (circular) splats resembles the red blood cells and fragmented splats, resembles the shape of viruses. Just as the infection of viruses affect our blood cells and challenge our immune system, the fragmented splats, adversely affect the mechanical properties of coatings. This thought manifested the comparison of Rhino virus infected immune system to fragmented splats in plasma sprayed micro-structure. And, after a while, I realized I just found other ways to procrastinate my tasks. Back to work now....

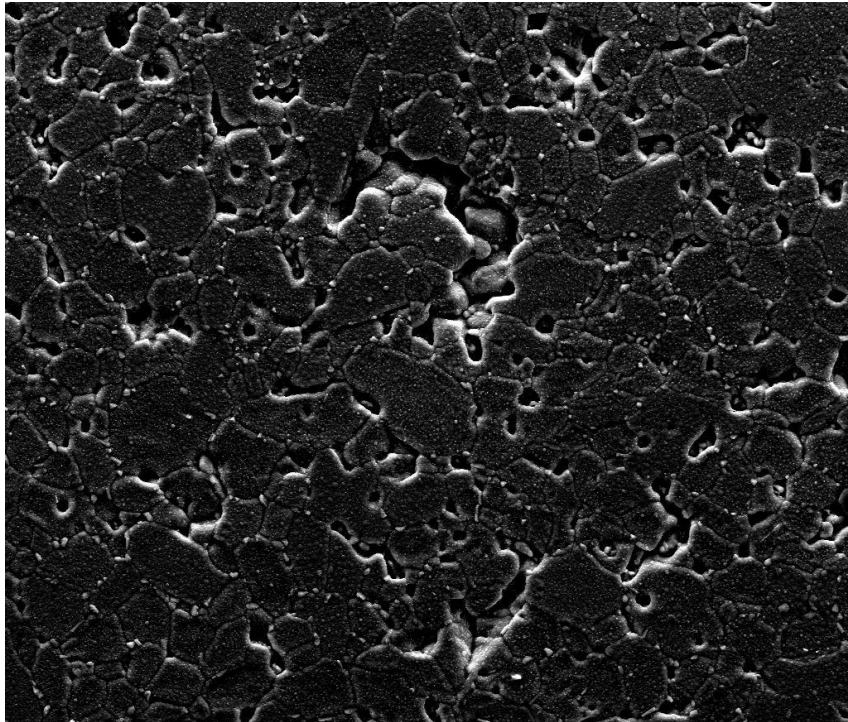


Splat Morphology of plasma sprayed Aluminum Oxide on low carbon steel observed by Optical Microscope at magnification of 200X



ACerS PCSA 3rd Creativity and Microstory Competition (2018) – Winners

(continued)



2018 Artistic Creativity, Viewer's Choice
"Universe in our Atoms"
by Gokul Nanda

Micro-oil storage wells – Nature's hierarchical design

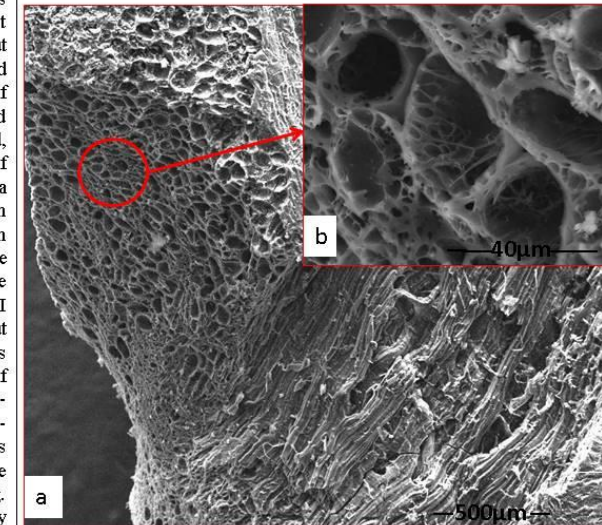
A scientific conversation with my professor on one fine day on designing porous structures resulted in exploring dried coconut shell which is a store-house of oil well known to Indians for ages. Commonly used as a fuel source in villages and rural areas for cooking and boiling water, it was quite natural to assume that coconut shells must be storing oil in pockets. Excited and enthusiastic to understand nature's way of designing structures to store oil, I collected coconut shells from a farm owned by a friend, burnt them in open air. I took one of the pieces of the burnt shell of suitable size to observe under a scanning electron microscope. If oil was stored in the shell, I wanted to see how was it stored which should be clear when observed in a microscope since obviously it was not noticeable through the naked eye. Albeit initial disappointment, since I could not see any such oil-storage cells/wells, but persistent observations at various magnifications revealed a very exciting yet intelligent design of micro-cells at different length scales. Each oil-storage well of 20 microns with porous walls - *interconnected* is nature's way of designing wells to maximize the storage per unit volume and the measured surface area was as high as 230 m²/g. Scanning electron microscopy in secondary electron mode beautifully captured this hierarchical design of oil-storage wells.



Coconut shell



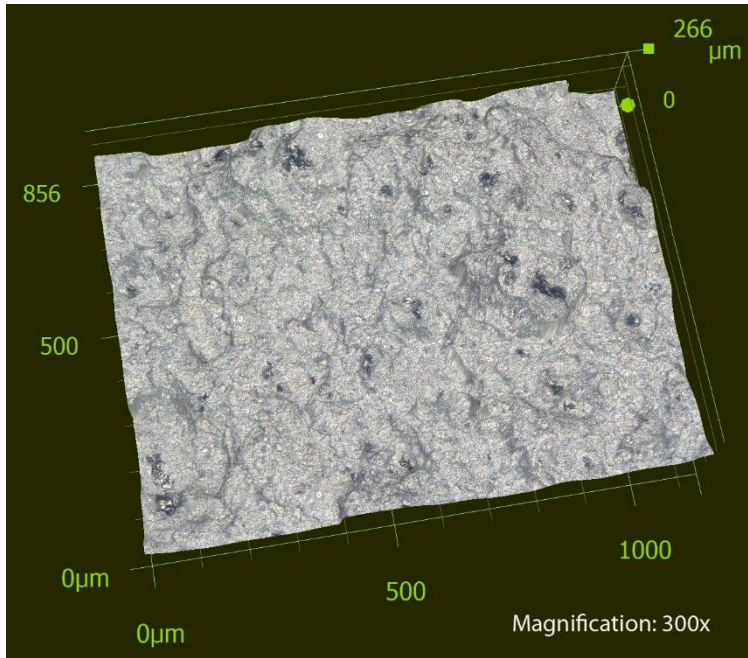
Burnt coconut shell



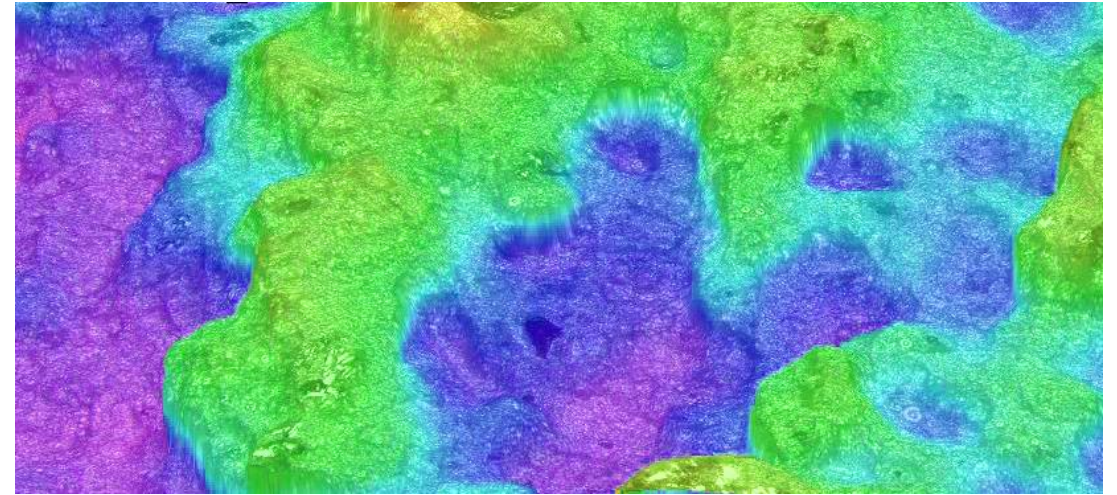
Cross sectional view of burnt coconut shell under scanning electron microscope (a) at lower magnification (b) at higher magnification

2018 Scientific Creativity, Viewer's Choice
"Micro-oil storage wells"
by Lokesh Vendra

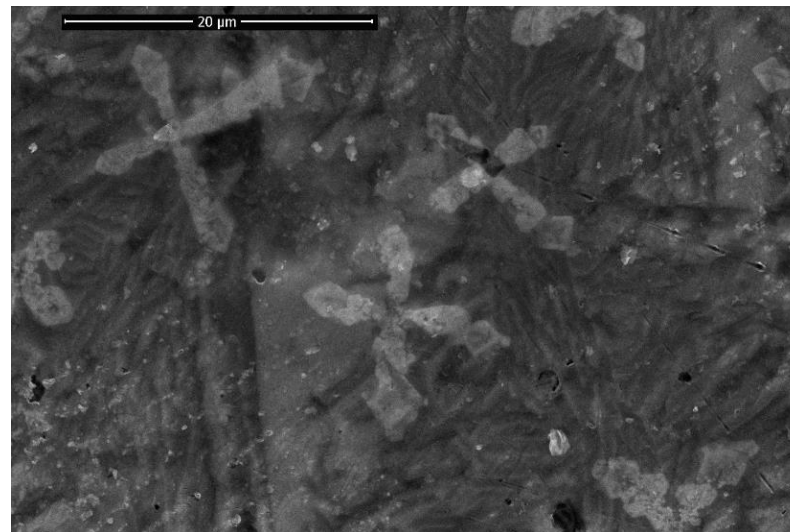
ACerS PCSA 4th Creativity and Microstory Competition (2019) – Winners



*2019 Microstory, Scientific Creativity Award
“A passion for observing a metallic surface”
by Md Salah Uddin*



*2019 Artistic Creativity and Viewer’s Choice Award,
“Artistic Microstructure of Algae on Mechanically Deformed Aluminum”
by Md Salah Uddin*



*2019 Microstory, Viewer’s Choice Award
“Flowers not cracks”
by Asif Ur Rehman*