

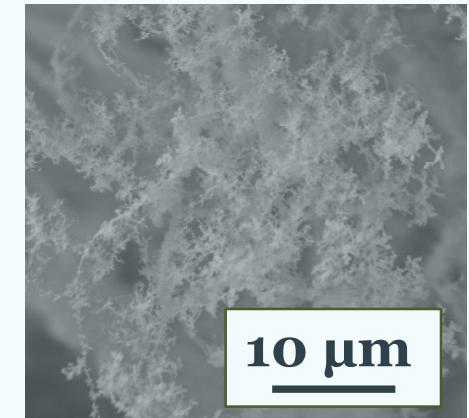
# Laser-fabricated nanofoam for particulate sensors to monitor air-quality



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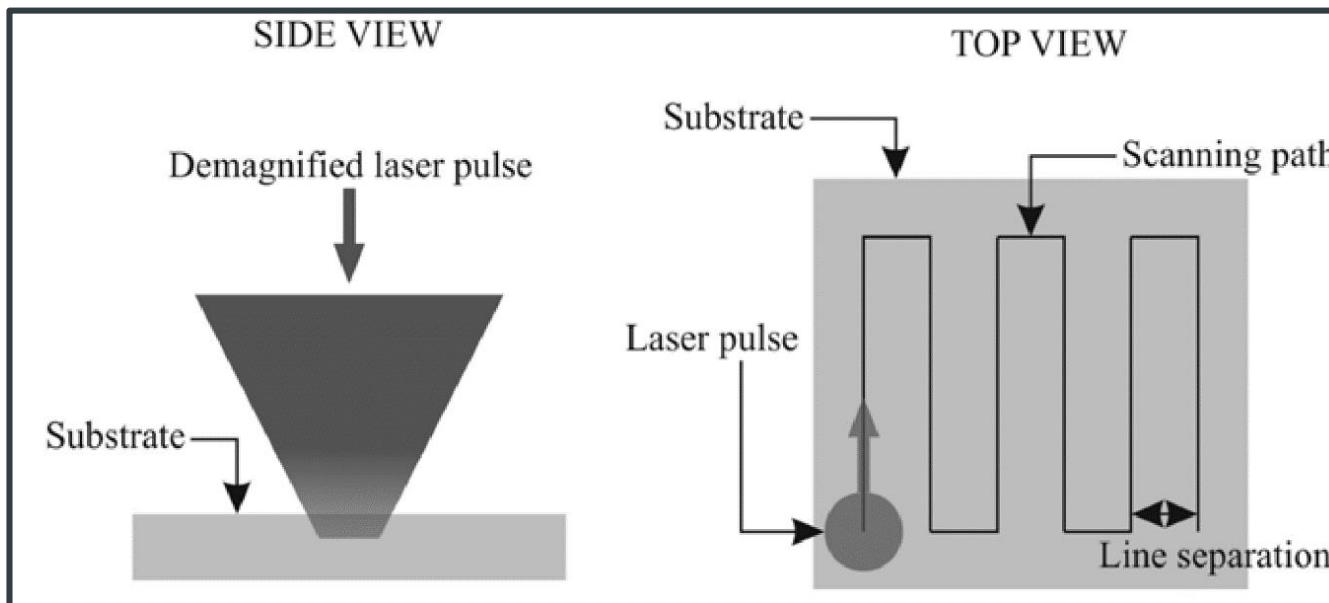
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**pulsed laser**

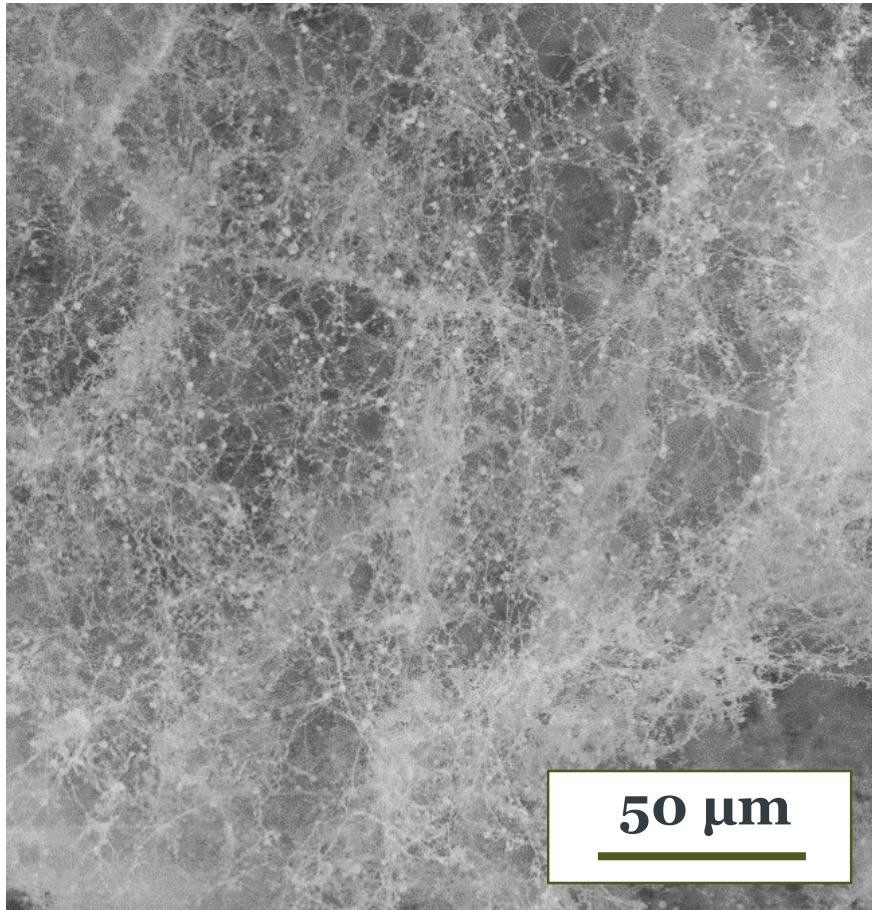
**any material \***

**nanofoam!**

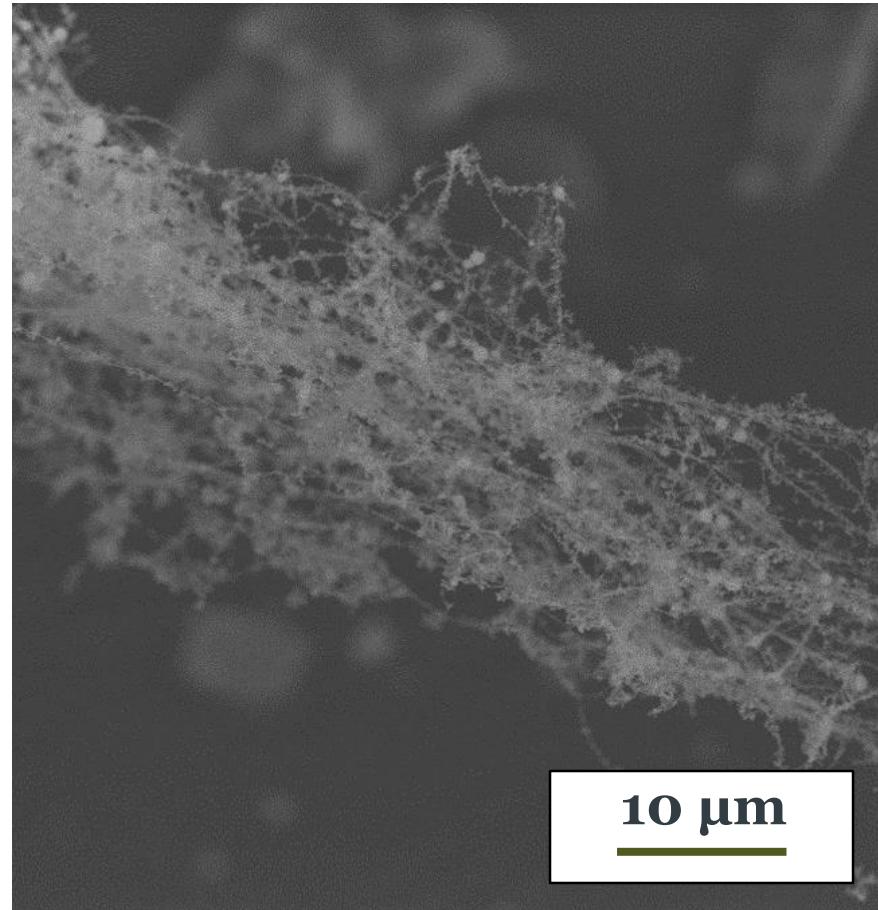


**\* silica, silicon, GLS, polymers, metals, ceramics, and many others**

# Laser-fabricated nanofoam for particulate sensors to monitor air-quality



50  $\mu\text{m}$



10  $\mu\text{m}$

silica nanofoam

# Laser-fabricated nanofoam for particulate sensors to monitor air-quality

## Step 1: Fabrication

- Can make nanofoam from almost any material

## Step 2: Capture

- First demonstration of ability to attract and hold particles

## Step 3: Detection

- Need to detect size, material and number of particles
- Mie Scattering
- Absorption/Reflection
- Electrical resistivity
- Hough transforms
- And others...

