

# CARBON AEROSOL GEL FROM CONTINUOUS NEGATIVE GRAVITY REACTOR

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A team of engineers from Washington University has developed a unique aerosol gel made from volume-spanning, semirigid networks of organic nanoparticles. Although the ultralow density and high surface area of these types of aerogels make them extremely useful for air and water purification, their production has thus far been limited to the non-continuous, time-consuming, and expensive sol-gel synthesis process. As an alternative synthesis approach that overcomes these constraints, the inventors developed aerogels using a flame aerosol reactor in negative gravity, which creates a unique flicker-free, cylindrical flame that allows continuous formation of millimeter-size aerogel particles.

**Publications:** [Trapping and aerogelation of nanoparticles in negative gravity hydrocarbon flames](#)  
[Fractal scaling of soot packing density across five size decades](#)