

## Recapping 2020's Top Nanotechnologies for Life: Transforming the Production of Carbon Nanotubes Using Carbon Dioxide



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Lately discovered CNTs production method presents affordable and eco-friendly aspects leading to the probable substitution of conventional uneconomical production procedures according to its less energy usage and environmental CO<sub>2</sub> requirement.

Carbon nanotubes (CNTs) as the controversial engineered materials family member and well-known to be the strongest and stiffest material yet discovered with the highest tensile strength and elastic modulus (up to 100 times higher than steel strength at 1/6 of its weight) has been mostly synthesized through uneconomical costly methods limiting more CNTs functional usage.

To overcome this restriction, a new and cost-effective electrochemical procedure has been recently designed and examined by [Vanderbilt University](#) researchers, in collaboration with [SkyNano LLC](#), to be energy-saving and additionally a utilizer for environmental CO<sub>2</sub>, as a direct input, that can be permanently transformed it into the valuable solid form of carbon or mentioned carbon nanotube structures.

Such a novel patent-pending technology employs ambient CO<sub>2</sub> captured in molten lithiated carbonates leading to the production of carbon nanotubes at high yield through electrolysis using inexpensive steel electrodes. These low-cost CO<sub>2</sub>-derived CNTs are demonstrated as high-performance energy storage materials in both lithium-ion and sodium-ion batteries.

Recently, SkyNano LLC was honored with the “Crowd Favorite” award at a pitch competition held at the fifth annual “Startup Day” at the Bijou Theatre in Downtown Knoxville, and their breakthrough was listed in the 2020's R&D 100 Awards respective category.

Given description clarifies an advanced nano-based CNTs preparation method and its attractive features for better decision-making in StatNano's recent discussing survey on the

most effective nanotechnology event in quality life in the following link:

[Start the StatNano Survey: 2020 Top Nanotechnologies for Life](#)

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