



THE BUSINESS PARTNER
FOR YOUR IDEAS



NON-PLANAR DIRECT-WRITE NANOLITHOGRAPHY

HARDWARE, CIRCUITS, & SENSORS

Method for direct-write nanolithography on non-planar surfaces for high-resolution, precise patterns at lower costs than convention methods.

TECHNOLOGY TYPE

Manufacturing

STAGE OF DEVELOPMENT

Established proof of concept.

IP PROTECTION

Provisional patent filed.

LEARN MORE

Reference Number: U-6774

Nick Wilkes

Technology Manager
nick.wilkes@tvc.utah.edu
801-587-0515

TECHNOLOGY SUMMARY

Available electrospinning technologies deposit haphazard fiber patterns. This deposition process significantly limits the pattern resolution and prohibits alignment between multiple layers.

University of Utah researchers have developed a method of direct-writing nanofibers and nanoparticles that enables the production of high-resolution, precise patterns. This technology is not only less expensive than current deposition technologies, but also enables direct-writing onto non-planar, or curved, surfaces.

FEATURES AND BENEFITS

- Less expensive than current technologies.
- Enables direct-writing onto non-planar surfaces.
- Facilitates precise patterning for high-resolution products.

RECENT PUBLICATIONS

Dongwoon Shin & Jonghyun Kim, Jiyoung Chang (2018). Experimental study on jet impact speed in near-field electrospinning for precise patterning of nanofiber. ASME Journal of Manufacturing processes. Vol. 36, 231-237. Published, 12/01/2018. doi: [10.1016/j.jmapro.2018.10.011](https://doi.org/10.1016/j.jmapro.2018.10.011)

INVENTOR PROFILE

Jiyoung Chang, Ph.D., [Assistant Professor – Mechanical Engineering](#)
Dongwoon Shin, Graduate Research Assistant – Mechanical Engineering

DATE UPDATED: 7/9/2019