3D Nanoscale Printing (Sonya)

Purdue University researchers complex nanoscale 3D objects with smooth features

High-speed projection multi-photon lithography combined with spatiotemporal focusing

- Rapid, layer-by-layer, continuous manner

Multi-photon lithography: high intensity laser pulses solidify resin

Spatiotemporal focusing: prints in thin layers (-> micron and submicron scale)

- digital micro-mirror device separates the laser into multiple wavelengths of light and recombines them -> pinpoints an area of the resin

Applications: biomedicine, microrobotics, optics, consumer products, etc.

Link: https://engineering.purdue.edu/ME/News/2021/no-more-jagged-edges-nanoscale-3d-printing-that-is-fast-smooth-and-repeatable