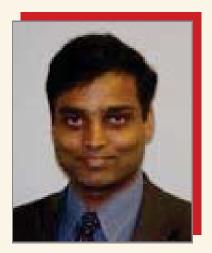# Wafer-Scale and Roll-to-Roll Nanofabrication Enabled by UV Nanoimprint Lithography

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ABSTRACT:

This presentation will focus on Jet and Flash Imprint Lithography (J-FIL), a form of UV nanoimprint lithography developed at UT-Austin. The talk will discuss research at the interface of precision machine systems and nano-scale materials to enable high throughput nanofabrication processes. The speaker will first review the development and commercialization of J-FIL stepper systems for semiconductor applications with a discussion of key precision sub-systems, and the demonstration of sub-20nm patterning, sub-5nm overlay and large area electrical yield results. The speaker will then discuss ongoing efforts at the NASCENT Center at UT-Austin to bring semiconductor grade nanofabrication to the world of R2R processing for flexible electronics, photonics and biomedical applications.

BIOGRAPHY:

Professor S.V. Sreenivasan is a nanotechnologist with an interest in creating nano-enabled devices in mobile electronics, advanced displays, healthcare and energy sectors. He has published over 130 technical articles and holds over 100 U.S. patents in the area of nanoscale manufacturing. He has received several awards for his work including the Technology Pioneer Award from the World Economic Forum (2005), the ASME Leonardo da Vinci Award (2009), the TAMEST O'Donnell Award for Technology Innovation in 2010, the ASME William T. Ennor Manufacturing Technology Award (2011), and The UT-Austin Inventor of the Year Award (2012). Dr. Sreenivasan founded Molecular Imprints Inc. (MII), a nanopatterning spin out from UT-Austin. He currently serves as the Chief Technologist of Canon Nanotechnologies, Inc., a company formed as a result of the acquisition of the semiconductor business of MII by Canon Corporation in 2014. MII is continuing to commercialize nanopatterning in other areas such as displays and data storage.