

## WEBINAR ANNOUNCEMENT

### Soft Lithography Methods of Fabrication

**Paul Joseph, Ph.D.**

Principal Research Scientist/  
SENIC External User Coordinator  
Institute for Electronics & Nanotechnology  
Georgia Institute of Technology



**Date: April 29, 2020**

**Time: 11:00 AM – 12:00 PM (EDT)**

**Abstract:** Soft lithography (SL) refers to a family of techniques for fabricating or replicating structures using elastomeric stamps, molds, and conformable photomasks. Fabrication of microfluidic devices by SL is the most popular approach due to simplicity and low cost. In this approach PDMS (polydimethylsiloxane) is cast on a SU-8 master mold to generate elastomeric stamps that are then sealed against glass slides using oxygen plasma. SL plays a vital role in microfluidics, ranging from simple channel fabrication with inlet/outlet to the creation of micropatterns onto a substrate surface. SL includes a collection of fabrication methods that are all based on using an elastomeric (or PDMS) stamp. These methods with reference to Microfluidics device fabrication ( $\mu$ DF), Replica Molding (REM), Micro-contact printing ( $\mu$ CP), Micro-transfer molding ( $\mu$ TM), and Micro-molding in capillaries (MIMIC) will be presented. The goal for this presentation is to impart a basic understanding of soft lithography for microfluidic applications as practiced in academia and industry.

**Bio:** Paul J Joseph received his PhD in Physical Chemistry from the University of Madras, India in 1997. From 1997 to 2000, he was a Visiting Scientist for the National Science Council of Taiwan at the National Tsing Hua University. From 2001, he was a Research faculty at the School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA. His research focused towards the development of new sacrificial polymeric materials and its application in the field of Microelectronics, Microfluidics, and Microelectromechanical Systems. Dr. Joseph is currently a Principal Research Scientist and is also serving as an external user coordinator at the GT-Institute for Electronics & Nanotechnology and his current research interests are in Nano-biotechnology, Bio- MEMS, Microfluidics, and Biosensors' application as Diagnostics and Detection Systems. Dr. Joseph's original research work overall resulted in 85 publications, reports, conference presentations, trade publications, and 7 awarded US and international patents.

**Who should attend:** Faculty, scientists, engineers, researchers, and technical staff from university, company, or government labs who use, or are interested microfluidics research and in learning about, micro- and nano-scale fabrication and characterization as part of their research efforts.

Join the Online Event April 29<sup>th</sup> at this Link: <https://bluejeans.com/205120439>