

MICROSTRUCTURING OF SU-8 RESIST FOR MEMS AND BIO-APPLICATIONS

P.K. Dey¹, B. Pramanick¹, A. RaviShankar², P. Ganguly¹, and S. Das³

¹Advanced Technology Development Centre

³School of Medical Science and Technology

Indian Institute of Technology, Kharagpur-721 302, India.

²Department of Electronics and Communication Engineering,

School of Electrical Sciences, Karunya University, India.

Email: pkd@ece.iitkgp.ernet.in

Abstract- Some studies on the fabrication of micro-needles, micro-pillars, and micro-channels using SU-8 negative photoresist for MEMS and bio-applications are reported. The SU-8 processing technology was standardized for the purpose. Micro-pillars were fabricated on SU-8 polymer by soft lithographic technique. Micro-needles were realized on SU-8 film utilizing lensing effect of the etched groove structure of the glass substrate. Micro-channel was fabricated by molding of PDMS polymer on patterned SU-8 ridge structure. Structural characterization of the fabricated structures were investigated using optical microscope and SEM.