

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Polymer nanopillar arrays via NIL for optical, photovoltaic and sensing applications BINOD RIZAL, THOMAS HOGAN, CHRISTINA GENNAOUI, DANIEL VIRGIL, SVET SIMIDJIYSKI, T.C. CHILES, M.J. NAUGHTON¹, Boston College — We have used nanoimprint lithography to fabricate high fidelity replicants of silicon nanopillar arrays in polymer form, using PDMS molds to create SU-8 and siloxane spin-on-glass structures. Typical nanopillar dimensions are 50-200 nm diameter and 1-2 μm height, with pitches between 0.8 and 1.5 μm . Both substrated and free-standing films have been produced. Forming the structural cores of nanocoaxial electrodes, the polymer nanopillars can facilitate a flexible platform for a wide variety of nanoscale applications, including optical waveguiding, solar cells, and multiplexed biochemical sensing. We will report on each.

¹This work is funded by the Seaver Foundation, NSF (PoLS and REU), USN-NHRC/EHEL, Solasta Inc.

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Date submitted: 14 Nov 2009

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