Integrating Area-Selective ALD with Electrohydrodynamic-Jet Printing to Enable Additive Nanomanufacturing

*Tae H. Cho*¹, *Nazanin Farjam*¹, *Tonglin L. Newsom*², *Christopher R. Allemang*², *Rebecca L. Peterson*², *Kira Barton*¹, *Neil P. Dasgupta*^{1,3}

¹Department of Mechanical Engineering, ²Department of Electrical Engineering and Computer Science, ³Department of Materials Science & Engineering, University of Michigan, Ann Arbor, Michigan 48109, USA



Scheme 1. (a and b) Additive e-jet printing of a polymer inhibition layer locally inhibits ALD growth in the printed region. (c and d) Subtractive printing uses a solvent ink to dissolve and displace an inhibition layer, generating an exposed region where ALD growth locally occurs.