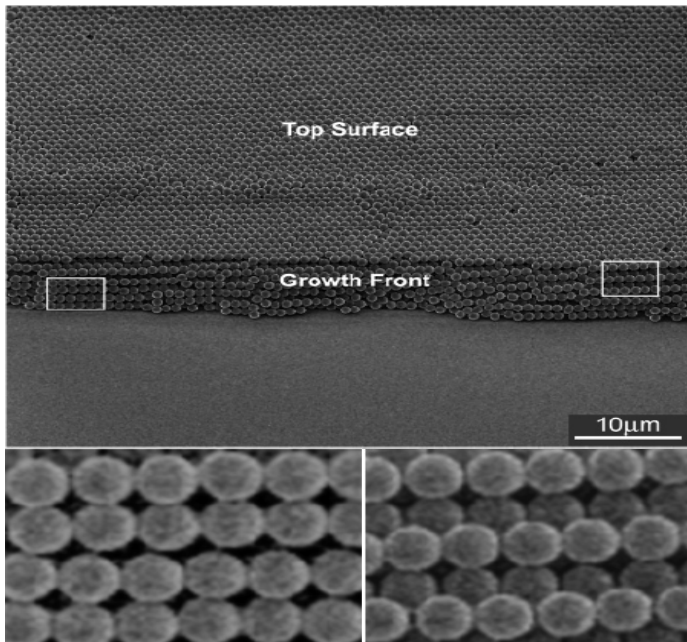


Fabrication of Photonic Crystals

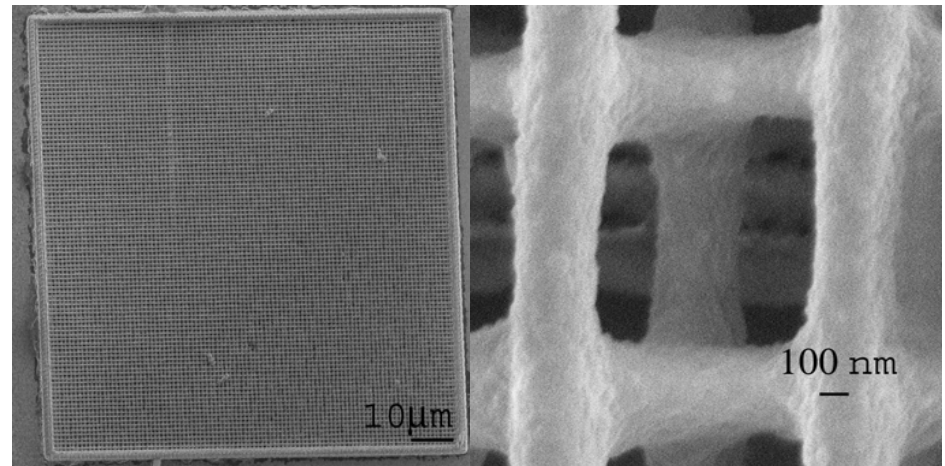
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Chemical Engineering & Materials Science, University of Minnesota

- Photonic Crystals (PhC's) are periodically ordered dielectrics with a band gap for certain frequencies of light
- Our group synthesizes PhC's using
 - Self assembly of silica spheres
 - Direct Laser Writing in a photoresist



● KEY OBSERVATIONS

- ◆ Defect free sub micron PhC's have been synthesized
- ◆ Three dimensional band gap for light around 1.5 μ m has been demonstrated
- ◆ Understanding the dynamics of self assembly



● Select Publications

- ◆ Norris *et al.*, **Adv. Mater.**, 16 (1393), 2004
- ◆ Meng *et al.*, **Nano Lett.**, 6 (2249), 2006
- ◆ Wei *et al.*, **Appl. Phys. Lett.**, 89 (241913), 2006
- ◆ Jun *et al.*, **Adv. Mater.**, 17 (1908), 2005