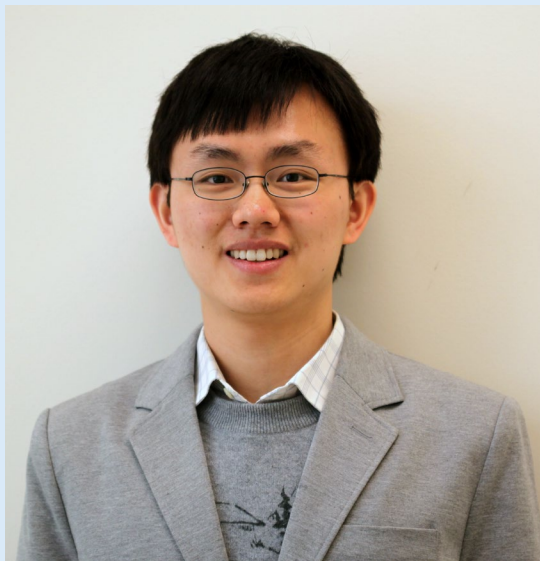


# INORGANIC CHEMISTRY SEMINAR



## Professor Sheng Xu

Department of Nanoengineering, University of California, San Diego

### “Controlled Epitaxial Growth and Fabrication of Hybrid Halide Perovskites”

**Abstract:** Organic–inorganic hybrid halide perovskites have demonstrated tremendous potential for next-generation electronic and optoelectronic devices due to their remarkable carrier dynamics. Current studies are mostly focused on polycrystals, since controlled growth of high-quality single crystals is challenging. In this presentation, I will discuss strategies that enabled the first chemical epitaxial growth of single-crystal hybrid halide perovskites. Using advanced microfabrication, homo-/hetero-epitaxy, and a low-temperature solution method, single crystals can be grown with controlled locations, morphologies, orientations, and strain levels. By a lifting off approach, single-crystal thin films can be transferred from the epitaxial substrate to a general flexible substrate. This approach opens up broad opportunities for hybrid halide perovskite materials based high-performance electronic and optoelectronic devices.

Wednesday, March 3<sup>rd</sup> 2021

**UCLA** College | Physical Sciences  
**Chemistry & Biochemistry**

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4:00 p.m. | ZOOM