

THE MATERIALS SCIENCE AND ENGINEERING DEPARTMENT  
WINTER COLLOQUIUM SERIES PRESENTS:

## Dr. Jonathan Lang

Photon Sciences Deputy Associate Laboratory Director for S&T at  
the Advanced Photon Source (APS) at Argonne National Laboratory



### *New capabilities and recent science from the upgraded Advanced Photon Source*

The **Advanced Photon Source (APS)** recently completed a major upgrade reducing the natural emittance of the storage ring from 3000 to a 42 pm. This produces highly coherent x-ray beams at high energies providing unique opportunities for interrogating materials with lens-less imaging techniques at nanometer length-scales or exploring the dynamics of systems orders-of-magnitude faster than was previously possible. This talk will detail the APS's recent experience with commissioning of the new storage ring and the new beamline capabilities for exploiting the high-energy coherence. The talk will also present some initial scientific results produced by APS beamlines over the past year and give an outlook for continued development of the APS accelerator and beamline portfolio

**Jonathan Lang** is the Photon Sciences Deputy Associate Laboratory Director for S&T at the Advanced Photon Source (APS) at Argonne National Laboratory. The APS is a US Dept. of Energy synchrotron user-facility that hosts over 5000 scientists each year conducting research across a wide-range of scientific disciplines. Dr. Lang is responsible the operation and development of the experimental systems at the APS including beamlines and key supporting technologies such as optics, detectors, and control systems. Prior to his director role, Dr. Lang was as research scientist at APS specializing in using x-rays to probe the behavior of magnetic and correlated electron systems. He has authored over 100 scientific papers, presented talks at numerous conferences and workshops, and serves on advisory committees for several synchrotron light sources world-wide.

**Tuesday, Feb. 3<sup>rd</sup> • 4 pm CT • Ford ITW**

*In person only; no Zoom*

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