UCLA Department of Physics & Astronomy

COLLOQUIUM

Thursday, May 23rd, 2024 at 4 p.m.
PAB 1-434

New frontiers in electron diffraction of molecular nanoassemblies

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The field of 3D electron diffraction is in the midst of a renaissance. It promises high-resolution structures of small and large molecules from tiny crystallites, and in doing so, fast tracks efforts that might not be possible by traditional x-ray crystallography. However, despite being studied for over a century, the electron diffraction measurement is still far from being fully described. One unexpected outcome is manifested in the quality of electron diffraction data, which despite improved instruments and software, can defy kinematical or dynamical diffraction models. Those challenges in refinement are sometimes accepted as an inherent property of the electron diffraction experiment, without a fundamental explanation. I will present efforts aimed at overcoming these limitations by leveraging the speed and sensitivity of new electron diffraction methodologies. Our ultimate goal is to pursue structures of miniscule assemblies, and perhaps single molecules with atomic resolution.

Refreshments at 3:30 p.m. PAB Patio. **Undergraduates Welcome!**