

# BI-CO MATHEMATICS COLLOQUIUM

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***“An Overview of the Theoretical Foundation  
and Applications of Cryo-Electron Microscopy”***

***Monday, March 13, 2023***

*Talk at 4:00 – Hilles 109*

*Tea 3:30 – Foyer outside of H109*

**Abstract:**

In this talk, I will introduce the principles and applications of cryo electron microscopy (cryo-EM). I will begin by explaining the basics of the technique and then move on to discuss the theoretical foundations of electron microscopy and image formation. I will also explain the challenges of data collection and how they are addressed, as well as the principles of image processing and 3D reconstruction. Finally, I will conclude by discussing the various applications of cryo-EM in structural biology. I hope to provide an accessible and engaging overview of this powerful technique and its potential for interdisciplinary research and collaboration.

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