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## Cryo-Electron Tomography for in situ Structural Biology

### Short Abstract

Cryo-electron tomography (cryo-ET) is a technique which allows direct visualisation of vitrified biological samples in 3D. In a framework conceptually similar to single particle analysis in cryo-EM, it is possible to achieve high-resolution (subnanometer and beyond!) insights into macromolecules directly within their cellular context by alignment and averaging of multiple copies of the same macromolecule. While possible, obtaining such results requires specialist knowledge of a complex workflow and as such is not routinely achieved in many labs worldwide.

### Talk Summary

- Overview of cryo-electron tomography
- Recent results
- Challenges in data processing
- Recent algorithmic developments
- New possibilities?

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