

Tools for Molecular Reconstruction in cryo-EM.

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An important step in the cryo-EM pipeline involves taking (centered) particle images and reconstructing a 3d molecular volume.

I'll describe some of the techniques we've developed to improve this step, including:

1. tools for appropriately centering particle images,
2. a simple method for detecting particle heterogeneity and segregating images, and
3. methods for accelerating the image-alignment and molecular reconstruction process.

This is joint work with the flatiron team: Marina Spivak, Joakim Anden, Alex Barnett, and Leslie Greengard.