Resources: Cryo-EM Biophysics 101
61st Annual Biophysical Society Meeting 2017

Reviews

• **Realizing the potential for electron cryo-microscopy.**

• **How cryo-EM is revolutionizing structural biology**
  Xiao-chan Bai, Greg McMullan, SJors H.W Scheres

• **Particle Cryo-EM at Crystallographic Resolution.**

• **The Current Revolution in Cryo-EM.**

• **Cryo-electron tomography: The challenge of doing structural biology in situ.**
  Lučić, Vladan, Alexander Rigort, and Wolfgang Baumeister.

Recommended Reading


Courses

Online Courses:

• Lectures on structural biology software including cryo-EM packages hosted by SBGrid consortium:
  [https://www.youtube.com/playlist?list=PLVetO1F9gm_oa--j37yrjz4yVJYzPv5](https://www.youtube.com/playlist?list=PLVetO1F9gm_oa--j37yrjz4yVJYzPv5)

• Training webinars on 3DEM modeling apps Situs and Sculptor:

• Course on the fundamental principles underlying cryo-electron microscopy
  [www.cryo-em-course.caltech.edu](http://www.cryo-em-course.caltech.edu)

• iBioSeminar on cryo-EM:

• Getting Started in Cryo-EM. [https://www.coursera.org/learn/cryo-em](https://www.coursera.org/learn/cryo-em)


On-Site Courses:

• Lecture series on EM given at the MRC Laboratory of Molecular Biology - LMB:

• Lectures from workshops at the National Resource for Automated Molecular Microscopy (NRAMM):
  [http://nramm.nysbc.org/workshops](http://nramm.nysbc.org/workshops)

• Workshops and Symposia from National Center for Macromolecular Imaging (NMCI):
  [http://ncmi.bcm.edu/ncmi/events/workshops](http://ncmi.bcm.edu/ncmi/events/workshops)

• EMBL Practical Course on Cryo-EM and Image Processing
  [http://www.embl.de/training/events/2016/CRY16-01/programme/index.html](http://www.embl.de/training/events/2016/CRY16-01/programme/index.html)
• Advanced Workshop on Cryo-Electron Tomography:  
  https://www.nexperion.net/expertise/cryotomo2017
• University of Zurich Winter School - Practical course in advanced microscopy.  
• The Brazil School for Single Particle Cryo-EM: https://www.imagescience.de/school.html
• Enhancing your Image Course:  
• Collaborative Computational Project (CCP)-EM workshops and courses.  
  http://www.ccpem.ac.uk/courses.php and CCP-EM Spring Symposium.  
  https://sas.stfc.ac.uk/vportal/VideoPlayer.jsp?ccsid=C-5190fde7-53fa-43d6-968d-843ac15a202c:1#

On-line Materials

• Software Tools For Molecular Microscopy.  
  https://en.wikibooks.org/wiki/Software_Tools_For_Molecular_Microscopy
• Tomography Software.  http://www.andrewnoske.com/wiki/Tomography_software

Major Meetings

• Gordon Research Conference on Three-Dimensional Electron Microscopy
• Microscopy and Microanalysis Annual Meeting
• Biophysical Society Annual Meeting: Cryo-EM Biophysics 101
• Other Meetings and workshops: http://www.emdatabank.org/3dem_events.html

Shared Facilities

• National Center for Macromolecular Imaging (NCMI) Baylor School of Medicine. NCMI offers Collaborative and Service Projects. http://ncmi.bcm.edu/ncmi/collaborations/project_proposal/confirmpage
• iNEXT network: European researchers can apply for cryo-electron microscope time at EMBL Heidelberg and at other major centers in Europe http://www.inext-eu.org/
• European Molecular Biology Laboratory (EMBL). http://www.embl.de/services/core_facilities/em/index.html
• National Center for Microscopy and Imaging Research (NCMIR). University of California San Diego. https://ncmir.ucsd.edu
• Instruct-FI CryoEM Facility. University of Helsinki. Collaborative and Service projects.  
  http://blogs.helsinki.fi/butcher/tietoja/
• Molecular Electron Microscopy Core. University of Virginia School of Medicine.  
  https://med.virginia.edu/molecular-electron-microscopy-core/
• Biological Science Imaging Resource, Florida State University. http://bsir.bio.fsu.edu/
• Multiscale Microscopy Core, Oregon Health & Science University. http://www.ohsu.edu/xd/research/research-cores/multi-scale-microscopy-core/