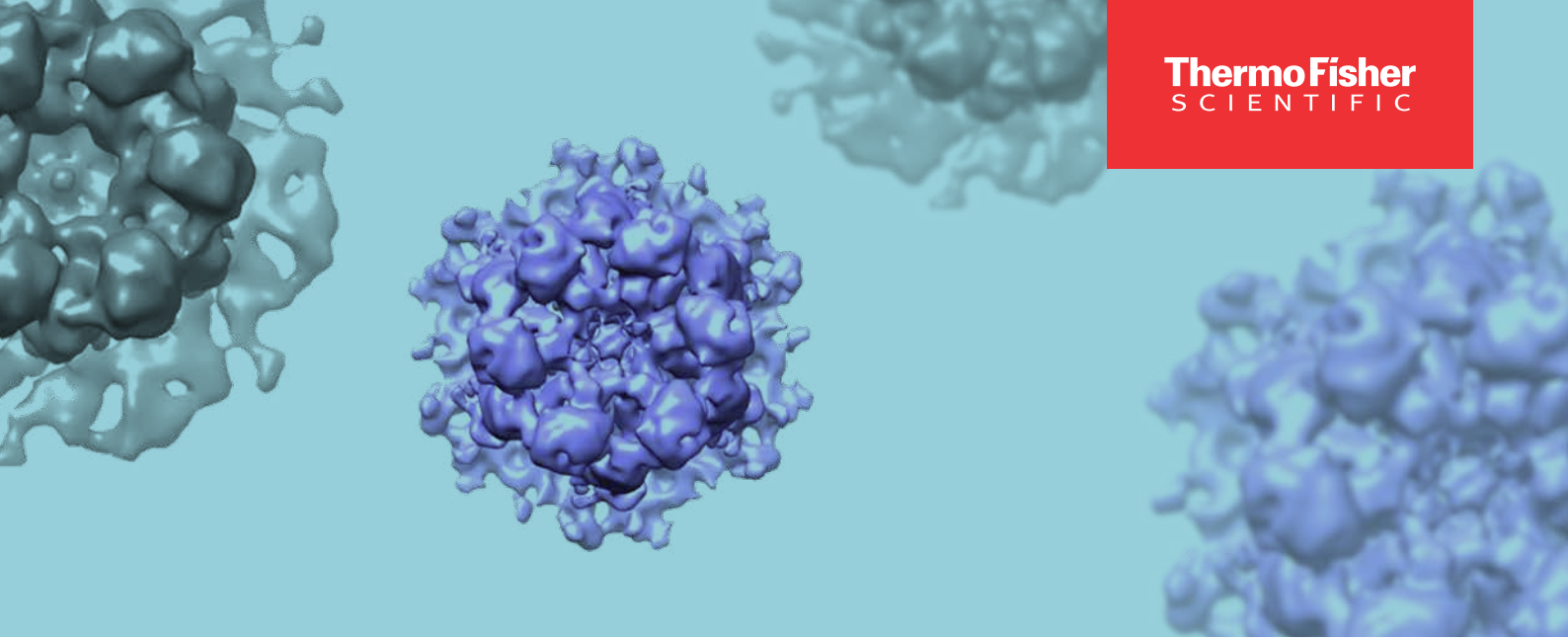


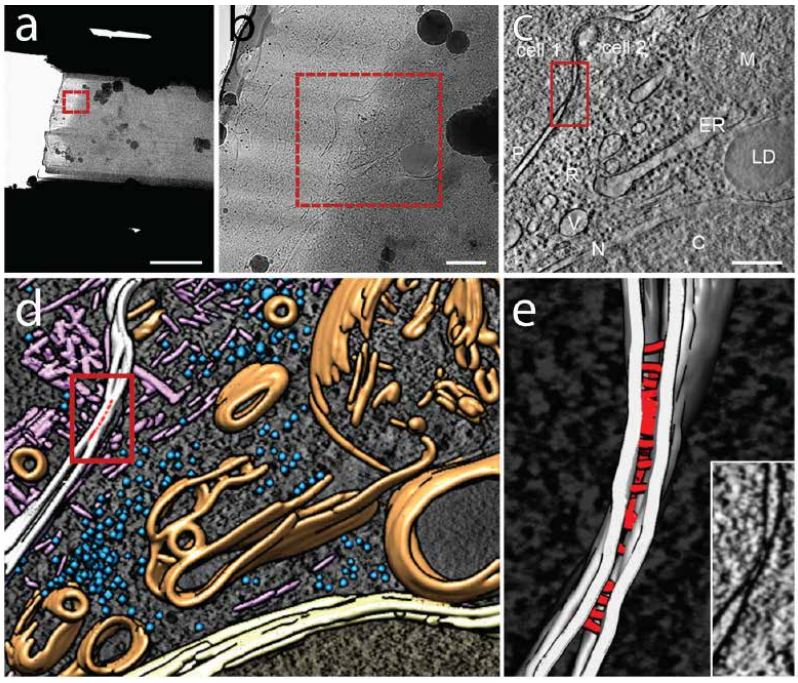
Selected Publications

Cryo-Tomography with 200kV Cryo-TEM

The Thermo Fisher Scientific Glacios and Talos Arctica Cryo-Transmission Electron Microscopes (cryo-TEMs) acquire 3D snapshots of the cellular interior and visualize protein complexes within their crowded physiological environments. Such high-resolution 3D images of the interior of cells provide new insights into cellular function and shed light on the arrangement and structure of native protein complexes.

Cryo-Tomography with 200kV Thermo Scientific Glacios

The Thermo Scientific™ Glacios™ cryo-TEM features 200 kV XFEG optics and the industry-leading Autoloader (cryogenic sample manipulation robot). Pairing the Glacios Cryo-TEM with the Thermo Scientific Selectris™ X Imaging Filters can be used as a complete solution for single particle analysis data acquisition, MicroED, and cryo-electron tomography.



Dow L, Guido G, Kaufman Y, et al. (2022) **Morphological control enables nanometer-scale dissection of cell-cell signaling complexes.** *Nature Communications* 13: 7831. https://www.nature.com/articles/s41467-022-35409-9

Keywords: protein micropatterning, cryogenic electron tomography, em-grids, atomic force microscopy, cell-cell signaling

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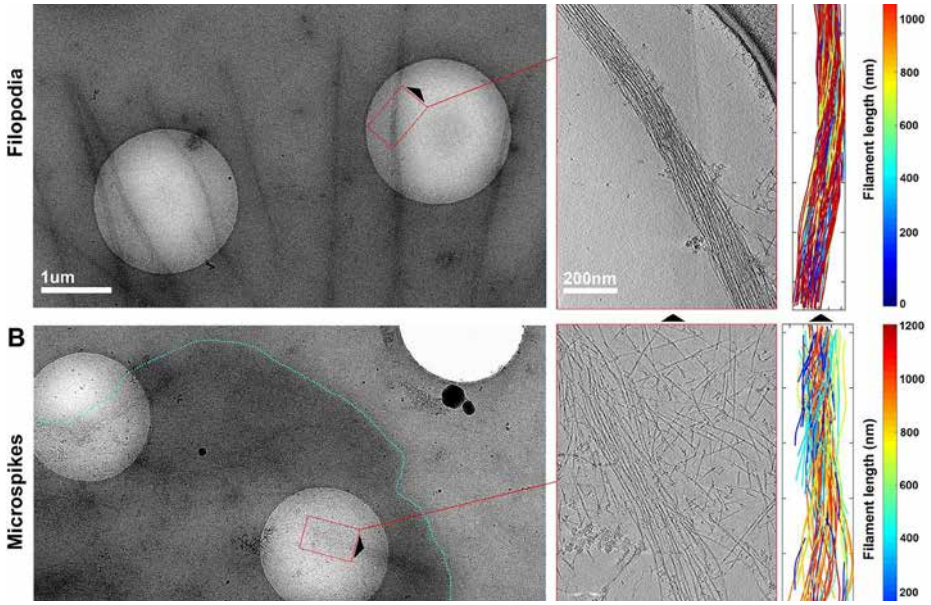
Chaaban S, Carter A (2022) **Structure of dynein-dynactin on microtubules shows tandem adaptor binding.** *Nature* 610, 212-216 (2022). **DOI: 10.1038/s41586-022-05186-y**

Keywords: cytoplasmic dynein, Cryo-electron microscopy, BICDR1, motor-cargo interactions, asymmetric interactions

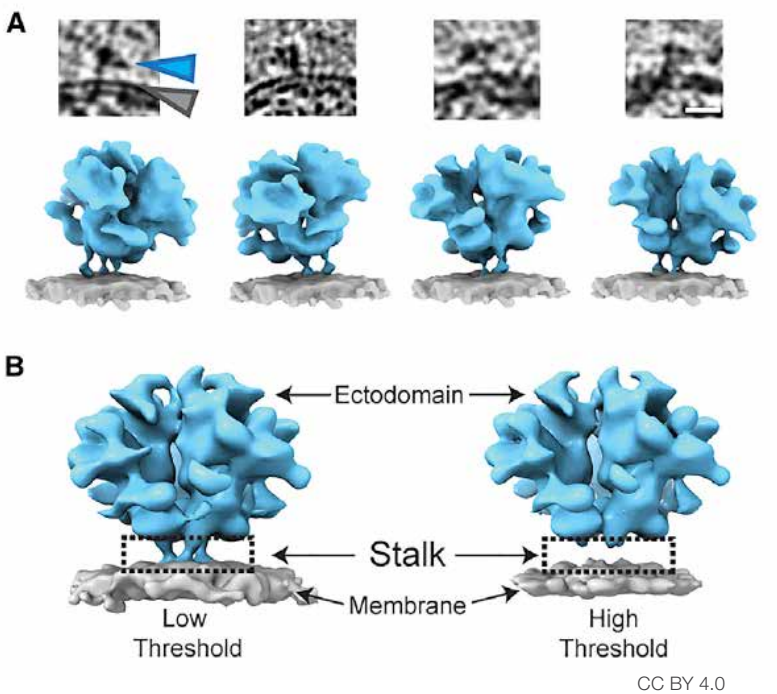


Dimchev G, Behnam A, Fäßler, Falcke M et al. (2021) **Computational toolbox for ultrastructural quantitative analysis of filament networks in cryo-ET data.** *J. Structural Biology* 213: 107808. **DOI: 10.1016/j.jsb.2021.107808**

Keywords: actin cytoskeleton, lamellipodia, filopodia, cryo-electron tomography, image processing, ultrastructural analysis

Cornell C, Mileant A, Thakkar N, Lee K, Keller S (2020) **Direct Imaging of Liquid Domains in Membranes by Cryo Electron Tomography.** *PNAS* 117 (33) 19713-197 **DOI: 10.1073/pnas.2002245117**

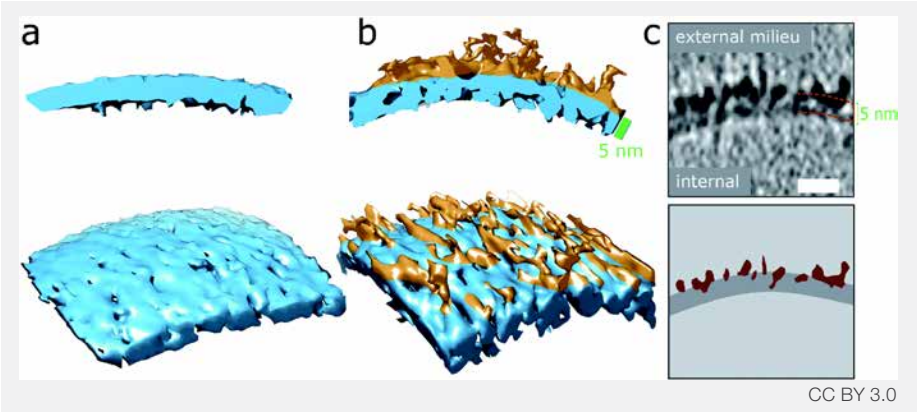
Keywords: lipid bilayers, cryo-electron tomography, biomimetic membranes, submicron membrane domains, trimeric mCherry label



Mangala Prasad V, Leaman, DP, Levendahl, KN, et al. (2022) **Cryo-ET of Env on intact HIV virions reveals structural variation and positioning on the Gag lattice.** *Cell* 185: 641 - 653.e17. **DOI: 10.1016/j.cell.2022.01.013**

Keywords: HIV Env glycoprotein, HIV assembly, Gag-Env interaction, cryo-electron tomography, sub-tomogram averaging, hydrogen/deuterium-exchange mass spectrometry, broadly neutralizing antibody, virus structure, vaccine design

Pepe A, Pietropaoli S, Vos, M, et al. (2021) **Tunneling nanotubes provide a novel route for SARS-**

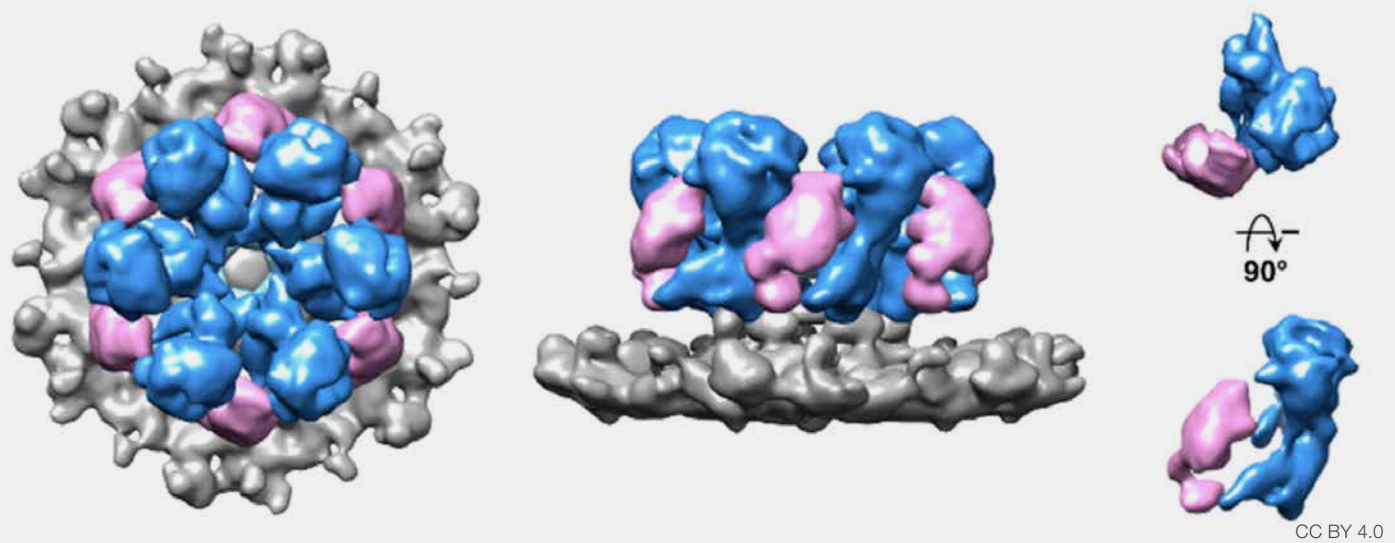


Tian Y, Liang R, Kumar A et al. (2021) **3D-visualization of amyloid-β oligomer interactions with lipid membranes by cryo-electron tomography.** *Chem. Sci* 12: 6896-6907. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8153238/

Keywords: amyloid-β, amyloid fibrils, Aβ cytotoxicity, Alzheimer's disease

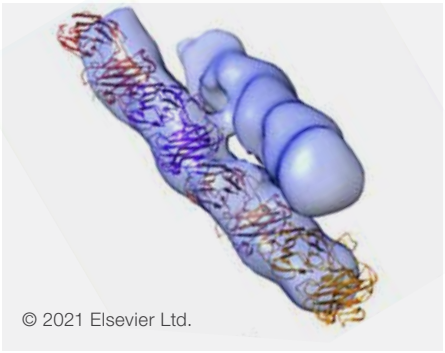
Cryo-Tomography with 200kV Thermo Scientific Talos Arctica

The Thermo Scientific Talos™ Arctica Cryo-TEM is a 200kV FEG scanning and transmission electron microscope (S/TEM) built for delivering high-resolution 3D characterization of biological samples and biomaterials in cell biology, structural biology, and nanotechnology research. The Talos Arctica S/TEM enables scientists to quickly obtain better insight and understanding of macromolecular structures, cellular components, cells, and tissues in three dimensions.



Jiménez-Ortigosa C, Jiang J, Chen M et al. (2021) **Preliminary structural elucidation of β-(1,3)-glucan synthase from *Candida glabrata* using cryo-electron tomography.** *J Fungi* 7(2): 120. DOI: 10.3390/jof7020120

Keywords: *Candida glabrata*, glucan synthase (GS)



Turk LS, Kuang X, Dal Pozzo V et al. (2021) **The structure-function relationship of a signaling-competent, dimeric Reelin fragment.** *Structure* 29: 1156–1170.e6. DOI: 10.1016/j.str.2021.05.012

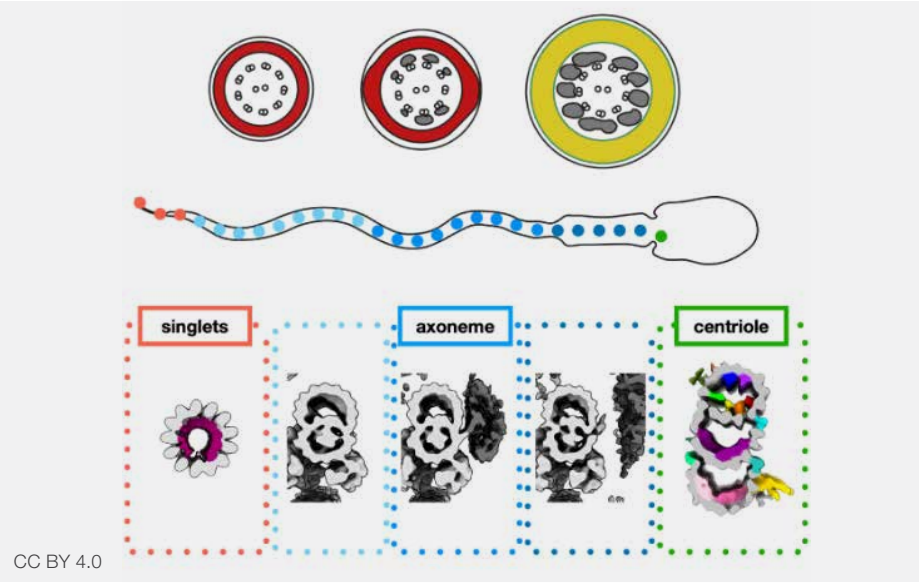
Keywords: Reelin, dimer, ApoER2, VLDLR cryo-ET, SAXS, AUC, high-content analysis

Chmielewski D, Schmid MF, Simmons G, Jin J, Chiu W (2022) **Chikungunya virus assembly and budding visualized *in situ* using cryogenic electron tomography.** *Nature Microbiology* 7, 1270-1279. DOI: 10.1038/s41564-022-01164-2

Keywords: chikungunya virus (CHIKV), cryogenic electron tomography (cryo-ET), alphavirus assembly, glycoprotein spike shell, antibody-mediated budding inhibition

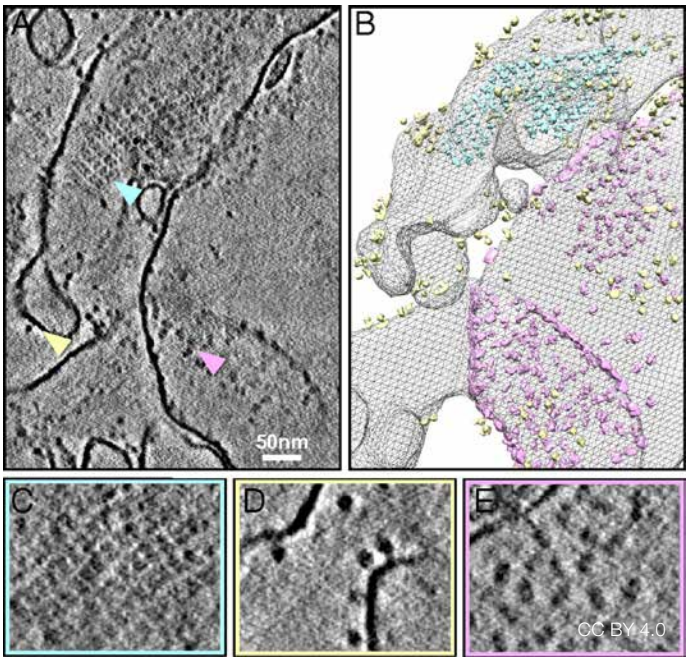
Leung MR, Roelofs MC, Ravi R et al. (2021) **The multi-scale architecture of mammalian sperm flagella and implications for ciliary motility.** *EMBO J* 40: e107410. **DOI: 10.15252/embj.2020107410**

Keywords: centrioles, cryo-FIB milling, motile cilia, sperm



Leung MR, Zenezini Chiozzi R, Roelofs MC, et al (2021) **In-cell structures of conserved supramolecular protein arrays at the mitochondria-cytoskeleton interface in mammalian sperm.** *Proc Natl Acad Sci USA* 118(45). **DOI: 10.1073/pnas.2110996118**

Keywords: mitochondria–cytoskeleton, contacts, cryo-FIB milling, cross-linking, mass spectrometry, subtomogram averaging

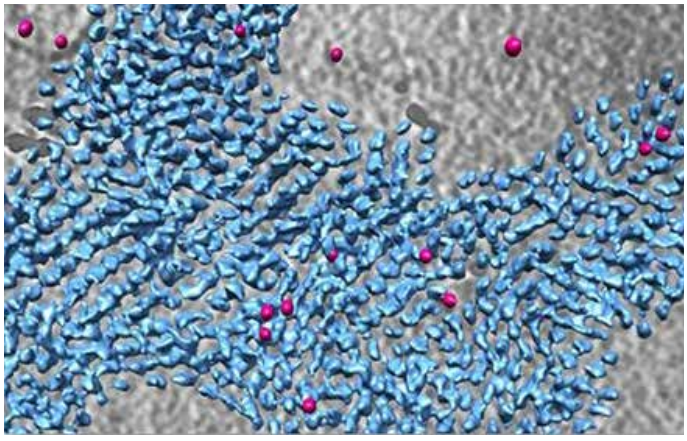


Levitan O, Chen M, Kuang X et al. (2019) **Structural and functional analyses of photosystem II in the marine diatom *Phaeodactylum tricornutum*.** *Proc Natl Acad Sci USA* 116: 17316. **DOI: 10.1073/pnas.1906726116**

Keywords: diatomphotosystem II, thylakoid membranes, functional, absorption analysis

Jiang J, Cheong KY, Falkowski PG et al. (2021) **Integrating on-grid immunogold labeling and cryo-electron tomography to reveal photosystem II structure and spatial distribution in thylakoid membranes.** *J Structur Biol* 213: 107746. **DOI:10.1016/j.jsb.2021.107746**

Keywords: immunogold labeling, protein identification, spatial distribution, photosystem II (PSII), photosynthesis



Berger C, Ravelli RBG, López-Iglesias C et al (2021) **Endocytosed nanogold fiducials for improved in-situ cryo–electron tomography tilt-series alignment** 213: 107698. **DOI: 10.1016/j.jsb.2021.107698**

Keywords: cryo-focused-ion beam lamella, tilt-series alignment, nanogold fiducials, bovine serum albumin, bsa-gold