Workshop on Machine Learning for cryoEM
(16 Sep 2022–23 Sep 2022)

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Name & Affiliation	Talk Title
Tristan Bepler Simons Machine Learning Center, USA	Detection and segmentation of objects in cryo-electron micrographs using geometric deep learning
Jonathan Bouvette National Institutes of Health, USA	*Tutorial* on SmartScope Automated systematic evaluation of cryo-EM specimens with SmartScope
Muyuan Chen Stanford University, USA	Deep learning based Gaussian mixture model for characterizing variability in CryoEM
Anchi Cheng New York Structural Biology Center, USA	*Tutorial* on Smart Leginon Smart Leginon
Daisuki Kihara Purdue University, USA	Building and Validating Protein Structure Models for cryo-EM Maps Using Deep Learning
Dari Kimanius MRC, UK	*Tutorial on* Single particle imaging *Tutorial on* RELION Representation learning with prior constraints
Mikhail Kudryashev Max Delbrück Center for Molecular Medicine, Germany	At-scale cryo-ET data processing for highresolution structural determination of membrane proteins
Yilai Li University of Michigan, USA	Machine learning approaches to automate single particle cryo-EM data acquisition
Duane Loh National University of Singapore, Singapore	Cryo-EM inspired EM applications
Jola Mirecka CCP-EM, UK	Towards automatic shape-based clustering and recognition in cryo-ET
Dong Si University of Washington Bothell, USA	Fast, Accurate, and Fully Automated Macromolecular Complex Structure Prediction and Determination from 3D CryoEM

Name & Affiliation	Talk Title
Amit Singer Princeton University, USA	Heterogeneity analysis in cryo-EM by covariance estimation and manifold learning
Carlos Sorzano Spanish National Research Council (CSIC), Spain	Machine learning needs and trends for Single Particle Analysis
Sameer Velankar EMBL-EBI, Hinxton, UK	A new era in (structural) biology - Impact of structure prediction using AI methods
Shruthi Viswanath Tata Institute of Fundamental Research, India	Modeling large macromolecular assemblies: can we combine integrative approaches with deep learning?
Thorsten Wagner MPI of Molecular Physiology, Germany	TomoTwin: Generalized particle picking for cryo-ET with metric learning
Min Xu Carnegie Melon University, USA	Reducing the training data annotation cost for deep learning based cryo-electron tomography analysis