Cryo-EM in Industry and Academia

EMBL INDUSTRY WORKSHOP

We have moved our website to embl.org/events. The content below is no longer being updated.

EMBL Courses and Conferences during the Coronavirus pandemic

With the onsite programme paused, many of our events are now being offered in virtual formats.

Registration is open as usual for many events, with back-up plans in place to move further courses and conferences online as necessary. Registration fees for any events affected by the COVID-19 disruption are fully refundable.

More information for participants of events at EMBL Heidelberg can be found here.

Programme

Got something to say? Tweet it! #EMBLCryoEM

Day 1 - Wednesday 6 February 2019

Time	Speaker
11:30-13:15	**Arrival, registration and light lunch**
13:15-13:30	**Welcome and Opening Remarks**
13:30-15:30	**Session 1 - Cryo-EM Overview** **Chair: Christoph Müller**
13:30-14:00	**Mechanistic insights from high-resolution cryoEM structures of ATP synthases** Werner Kühlbrandt - Max Planck Institute of Biophysics, Germany
14:00-14:30	**Building cryo-EM at Genentech to enable drug discovery** Claudio Ciferri - Genentech, USA

Time	Speaker
14:30-15:00	**Trusting and improving cryoEM information: Doing better and with more image processing quality indicators, while assuring complete process traceability** José María Carazo - CNB-CSIC, Spain
15:00-15:15	**Application of Cryo-EM for drug discovery and development at Amgen** Xin Huang – Amgen Inc., USA
15:15-15:30	**MicroED: the new tool for the Structural (Bio)Chemist** Sacha De Carlo - Dectris AG, Switzerland
15:30-16:00	**Coffee Break and Meet the Speaker with:** Werner Kühlbrandt Claudio Ciferri José María Carazo
16:00-18:00	**Session 2 - Cryo-EM in Industry Workflows** **Chair: Friedrich Rippmann**
16:00-16:30	**Crystals or grids? Integrating Cryo-EM into the SGC membrane protein pipeline** Katharina Dürr - University of Oxford, UK
16:30-17:00	**The architecture of DNA damage repair PIKK kinases and their molecular mechanisms of regulation** Taiana Maia de Oliveira - AstraZeneca, UK
17:00-17:30	**Cryo-EM in mid-sized pharma: challenges and achievements @ Merck** Yves Fomekong Nanfack - EMD Serono, USA
17:30-18:00	**Cryo-EM: a (new) tool for drug discovery at Novartis** Christian Wiesmann - Novartis, Switzerland
18:00-19:30	**Poster session**
19:30-21:00	**Dinner** EMBL Canteen
21:00-23:00	**After Dinner Drinks** ATC Rooftop Lounge

Day 2 - Thursday 7 February 2019

Time	Speaker

09:00-12:30	**Session 3 - Cryo-EM "Success Stories" in Industry and Academia** **Chair: Christian Engel**
09:00-09:30	**A cryo-EM journey from academia to industry to elucidate dynamics of macromolecular machines and enable structure based vaccine design** Priyanka Abeyrathne - GlaxoSmithKline Vaccines, USA
09:30-10:00	**The signalling conformation of the human insulin receptor ectodomain** Mike Lawrence - Walter and Eliza Hall Institute of Medical Research, Australia
10:00-10:15	**Structure of the human MHC-I peptide-loading complex** Dovile Januliene - Max Planck Institute of Biophysics, Germany
10:15-10:30	**Structure and function of the human multidrug transporter ABCG2** Ioannis Manolaridis – ETH Zurich, Switzerland
10:30-11:00	**Coffee Break and Meet the Speakers with:** Katharina Dürr Taiana Maia de Oliveira Yves Fomekong Nanfack Christian Wiesmann Priyanka Abeyrathne Mike Lawrence
11:00-11:30	**Advantages of an EM approach to therapeutic design** Stephen P. Muench - University of Leeds, UK
11:30-12:00	**Active-state GPCR structures by cryo-EM; past, present, future...?** Patrick M. Sexton - Monash University, Australia
12:00-12:15	**Cryo-EM structure of the human neutral amino acid transporter ASCT2** Cristina Paulino – University of Groningen, The Netherlands
12:15-12:30	**Cryo-EM structure of the lipid transporter MLA** Daniel Mann - University of Sheffield, UK
12:30-14:00	**Lunch** ATC Foyer
14:00-16:00	**Session 4 - Sample Optimization for Cryo-EM** **Chair: Christian Engel**
14:00-14:30	**Detergent-free solubilisation of membrane proteins for biochemical and structural characterisation** Timothy Dafforn - University of Birmingham, UK

14:30-15:00	**Saposin lipid nanoparticles for structure determination of membrane proteins** Christian Löw - EMBL Hamburg, Germany
15:00-15:30	**Structure determination of GPCRs: cryo-EM compared to X-ray crystallography** Chris Tate - MRC Laboratory of Molecular Biology, UK
15:30-15:45	**Pushing the size limit of cryo-EM on small membrane proteins using an entry-level electron microscope** Jiansen Jiang – National Institutes of Health, USA
15:45-16:00	**Mechanisms of GABAA receptor signalling revealed by structural pharmacology** Simonas Masiulis – MRC Laboratory of Molecular Biology, UK
16:00-16:30	**Coffee Break and Meet the Speakers with:** Stephen P. Muench Patrick M. Sexton Timothy Dafforn Christian Löw Chris Tate
16:30-19:00	**Session 5 – Models of operation** **Chair: Chun-wa Chung**
16:30-17:00	**Cryo-EM: microscopy vs data collection** Wim Hagen - EMBL Heidelberg, Germany
17:00-17:30	**The Cambridge Pharmaceutical Cryo-EM Consortium** Kasim Sader - Thermo Fisher Scientific, UK
17:30-18:00	**Integrative structural biology of HIV-1 and host interactions** Peijun Zhang - Diamond Light Source Ltd, UK
18:00-19:00	**Industry challenges in cryo-EM: are we making progress?** Panel Discussion with: Friedrich Rippmann Chun-wa Chung Christian Wiesmann Taiana Maia de Oliveira Anastassis Perrakis Anette Schneemann
19:00-20:30	**Dinner in the EMBL Canteen**
20:30-23:00	**After Dinner Drinks, live Jazz** ATC Rooftop Lounge

Day 3 - Friday 8 February 2019

Time	Speaker
09:00-12:15	**Session 6 - Future Developments in Cryo-EM** **Chair: Chun-wa Chung**
09:00-09:30	**Phase plates in cryo-EM** Radostin Danev - University of Tokyo, Japan
09:30-10:00	**Chameleon: A pico-litre dispense, self-wicking system for automated plunge freezing** Paul Thaw**-** TTP Labtech, UK
10:00-10:15	**VitroJet: Next generation sample preparation for cryo-EM** Gulia Weissenberger - CryoSol-World, The Netherlands
10:15-10:30	**iNEXT: Infrastructure for NMR, EM and X-rays for translational research** Anastassis Perakis
10:30-11:00	**Coffee Break and Meet the Speakers with:** Wim Hagen Kasim Sader Peijun Zhang Radostin Danev Paul Thaw John Briggs Julia Mahamid
11:00-11:30	**Cryo-electron tomography to study enveloped virus structure** John Briggs - MRC Laboratory of Molecular Biology, UK
11:30-12:00	**Molecular views into cells by in situ cryo-electron tomography** Julia Mahamid - EMBL Heidelberg, Germany
12:00-12:15	**Closing remarks and Poster Prizes** Chun-wa Chung
12:15-13:30	**Lunch followed by Departure**
13:00-13:30	**EMBL Cryo-EM facility tour 1** Separate Registration required – please await further information before event
13:30-14:00	**EMBL Cryo-EM facility tour 2** Separate Registration required – please await further information before event