

Spring Symposium 2022
25 - 27 April 2023
EMCC Nottingham and Virtual

Programme: Tuesday 25th April

Diamond Biological Cryo-imaging User Meeting: eBIC & B24

Parallel morning satellite sessions (in-person only)

All times UK (BST)

Please use our Slack channel for online speaker questions and discussion:

join.slack.com/t/ccpemspringsy-jsv3489/shared_invite/zt-1ti67pc1d-YXNDRxZWcArCOIszvkJYDw

Time	Title
11:00	<p>Conference Suite 1: Jason Van Rooyen (eBIC for Industry, Diamond) Best practises for high-resolution single-particle data collection as applied to drug-discovery projects</p> <p>A workshop on best practices for high-resolution single-particle data collection as applied to drug-discovery projects. The session will look at decisions, considerations, and their impacts throughout the experiment from grid types to file formats will be discussed and demonstrated in the context of achieving the quickest and least expensive path to biological insights. This session will be most useful for any scientists wanting to learn how to optimise their data collection sessions and not their grids. Since it will cover advanced topics like AFIS targeting, counting dose-rates, tilting, and camera modes etc. an intermediate background understanding of single-particle methods and microscopy is assumed.</p>
11:00	<p>Conference Suite 2: Miriam Weckener (SPT Labtech) Getting the most out of new sample preparation technologies: samples and access routes</p> <p>The SPT Labtech chameleon® automated sample preparation instrument workshop is designed to help anybody interested in learning more about the system. We're excited to see you whether you are looking to try chameleon for the first time or are already familiar and want to hear what's coming next. The workshop will include sharing current user's experiences and advice on getting the most out of the chameleon. We'll be addressing common questions and queries: What sample concentration do I need? When and why should I consider chameleon for my sample? What is the difference compared to a standard plunge freezer? In addition, if you have a sample that you'd like to test on the instrument, then please fill out the form sent after registration. We will take you through the ways in which you can access the instrument and there'll be a member of the eBIC team at Diamond Light Source on hand to provide an overview of their user programme and the rapid access route. We look forward to seeing you there!</p>
11:00	<p>Conference Suite 3: Maria Harkiolaki (B24, Diamond) Does your project need correlative soft X-ray tomography?</p> <p>A workshop on the latest developments in soft X-ray tomography at cryogenic temperatures for the study of fully hydrated cell populations and tissue and the various correlative workflows available for 3D correlation. We will look at the areas of biomedical research that have benefitted from the technology available at B24, the timescales involved and the automation and protocols that has been developed to enable the user community. The session is appropriate for both novice and experienced users.</p>
12:00	Lunch for all CCP-EM and BCI user meeting attendees

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 **Link to join Webinar: ukri.zoom.us/j/98084886151**

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Session 1 – Chair: Julika Radecke

Time	Title	Speaker
13:00	Welcome	Martin Walsh (eBIC & B24 Diamond)
13:10	eBIC user updates	James Gilchrist (eBIC Diamond)
13:40	Electron cryo-microscopy reveals the structure of the archaeal thread filament	Bertram Daum (Exeter)
14:00	Visualising assembly intermediates of Rotavirus inside cells	Pranav Shah (Oxford)
14:20	Keynote: Recent developments in correlative cryo-EM technologies to support in situ structural biology	Elizabeth Wright (University of Wisconsin-Madison)
15:00	Coffee and Dectris Swiss chocolates	

Session 2 – Chair: Claire Pizzey (B24 Diamond)

Time	Title	Speaker
15:30	B24 user updates	Archana Jadhav (B24 Diamond)
16:00	Correlating structural and biochemical information of airborne London Underground pollution effects on human lung cells	Victoria Garcia Giner (Imperial College London)
16:25	Visualising the interplay between SARS-CoV-2 and the cellular hypoxic response with the power of soft X-ray tomography at beamline B24	Peter Wing (Nuffield Department of Medicine, Oxford)
16:50	Coffee and Dectris Swiss chocolates	

Session 3 – Chair: Kyprianos Hadjidemetriou (eBIC Diamond)

Time	Title	Speaker
17:20	Keynote: Progress in cryoEM: Better, Faster, Cheaper, Smarter	Bridget Carragher (Chan Zuckerberg Institute for Advanced Biological Imaging)
18:00	User meeting round-table discussion During the user meeting representatives from eBIC, B24 and the Membrane Protein Lab (MPL) will discuss topics raised in the User Survey	Chairs: Natasha Lukoyanova (Birkbeck) Jamie Blaza (York) Panel: Sir Dave Stuart (Director Life Sciences, Diamond) Martin Walsh (BCI Science Group leader) Peijun Zhang, Karen Davies, Dan Clare, Yuriy Chaban (eBIC) Jason Van Rooyen (eBIC for Industry) Maria Harkiolaki (B24) Andrew Quigley (MPL)
19:00	BCI user meeting and CCP-EM joint Drinks and Buffet reception kindly sponsored by ThermoFisher Scientific!	
20:00 till late	The first joint BCI UM/CCP-EM SS Ceilidh, kindly sponsored by Dectris!	

Spring Symposium 2022
25 – 27 April 2023
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Programme: Wednesday 26th April

CCP-EM Spring Symposium

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Session 1 – Chair: Stephen Muench

Time	Title	Speaker
9:00	Opening and welcome What's new in CCP-EM, eBIC & EMDB/EMPIAR	
9:15	CCP-EM	Matt Iadanza
9:45	DLS/eBIC	Dan Hatton
10:15	EBI	Gerard Kleywegt
10:45	Coffee and Dectris Swiss chocolates	

Session 2 – Chair: Bertram Daum

Time	Title	Speaker
11:30	Cryo-EM-derived atomic models of algal and human axonemes	Alan Brown (Harvard)
12:00	Insights in the assembly process of respiratory complex I by cryo-EM	Janet Vonck (Max Planck Biophysics)
12:30	VitroJet: Moving Sample Preparation into the New Era	René Henderikx (CryoSol)
12:50	Lunch	

Session 3 – Chair: Saskia Bakker

Time	Title	Speaker
14:30	An overview of recent Thermo Fisher Scientific's developments in cryo-TEM workflows	Ieva Drulyte (TFS)
15:00	Deconstructing cryoEM micrographs with a graph-based analysis for effective structure detection	Beatriz Costa Gomes (Turing)
15:30	Coffee and Dectris Swiss chocolates	

Session 4 – Chair: Giulia Zanetti

Time	Title	Speaker
16:15	Robust and efficient likelihood-based docking of models into cryo-EM reconstructions	Randy Read (Cambridge)
16:45	ModelAngelo: Automated Model Building and Protein Sequence Identification from Cryo-EM Maps	Kiarash Jamali (MRC-LMB)
17:30	Poster Session	
19:30	Conference dinner & entertainment	

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Programme: Thursday 27th April

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Session 5 – Chair: Emma Hesketh

Time	Title	Speaker
9:00	A web-based dashboard for visualization of Relion metadata	Nayim Gonzalez-Rodriguez (CNIO)
9:20	Understanding redox protein mechanism through structure	Bonnie Murphy (Max Planck Biophysics)
9:50	Where to from here? Perspective on the future of model building in the mega-model era	Tristan Croll (Altos)
10:20	Coffee	

Session 6 – Chair: Dan Clare

Time	Title	Speaker
11:00	Collagen - from AlphaFold to cryoEM	Mark Becker (Manchester)
11:20	Role of the merozoite surface protein 1 (MSP1) complex in <i>P. falciparum</i> egress from erythrocytes	Rebecca Anne Lees (Birkbeck)
11:50	The molecular structure of IFT-A and IFT-B in anterograde intraflagellar transport trains	Sam Lacey (Human Technopole)
12:20	Plasma FIB/SEM for volumetric imaging and the determination of structures in cells and tissues	Michael Grange (Franklin)
12:50	Poster awards	
13:00	Lunch	

Session 7 – Chair: Vicki Gold

Time	Title	Speaker
14:30	HDCR: a filamentous enzyme for high-speed carbon fixation revealed by cryo-ET	Ricardo Righetto (Basel)
15:00	In-tissue cryoCLEM and cryoET	Rene Frank (Leeds)
15:30	Title TBC	Elizabeth Villa (UCSD, remote)
16:00	Meeting close	