

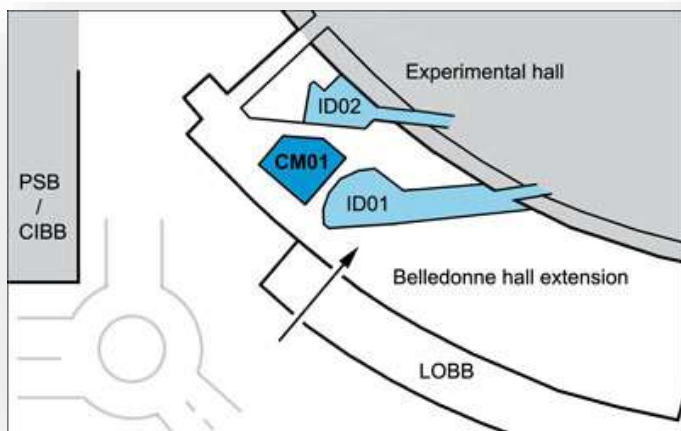


CRYO-ELECTRON MICROSCOPY AT THE ESRF





CM01 CRYO-ELECTRON MICROSCOPE



Our beamlines

CM01 CRYO-ELECTRON MICROSCOPE

CONTACTS

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Beamline operation manager

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Beamline responsible

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Control Cabin 4581

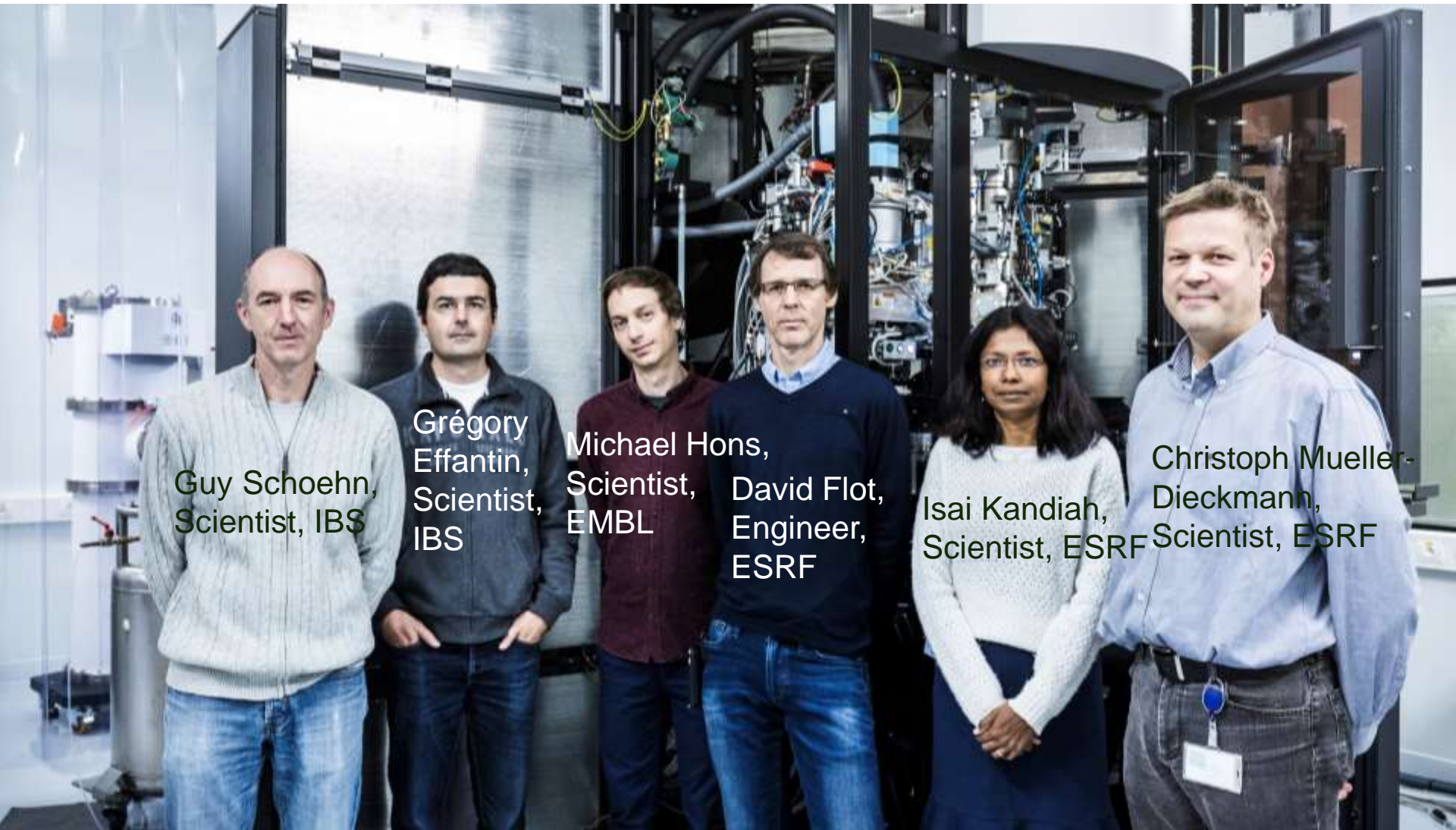
Information for users



Synopsis

The ESRF has acquired a Titan Krios cryo-electron microscope (cryoEM) for single particle experiments. It is equipped with a K2 Summit direct electron detector, a Quantum LS imaging filter and a Volta phase plate (VPP). The microscope is situated at the ESRF and is run as a beamline (CM01) with access for the international Structural Biology community given on scientific merit through [rolling-access applications](#). In the longer term, CM01 will be part of a cryoEM platform run within the [Partnership for Structural Biology](#) (PSB) in conjunction with the microscopes located at the IBS and the EMBL. A team of three scientists from the ESRF, the IBS and the EMBL will support user operation.

CM01 TEAM



Guy Schoehn,
Scientist, IBS

Grégory
Effantin,
Scientist,
IBS

Michael Hons,
Scientist,
EMBL

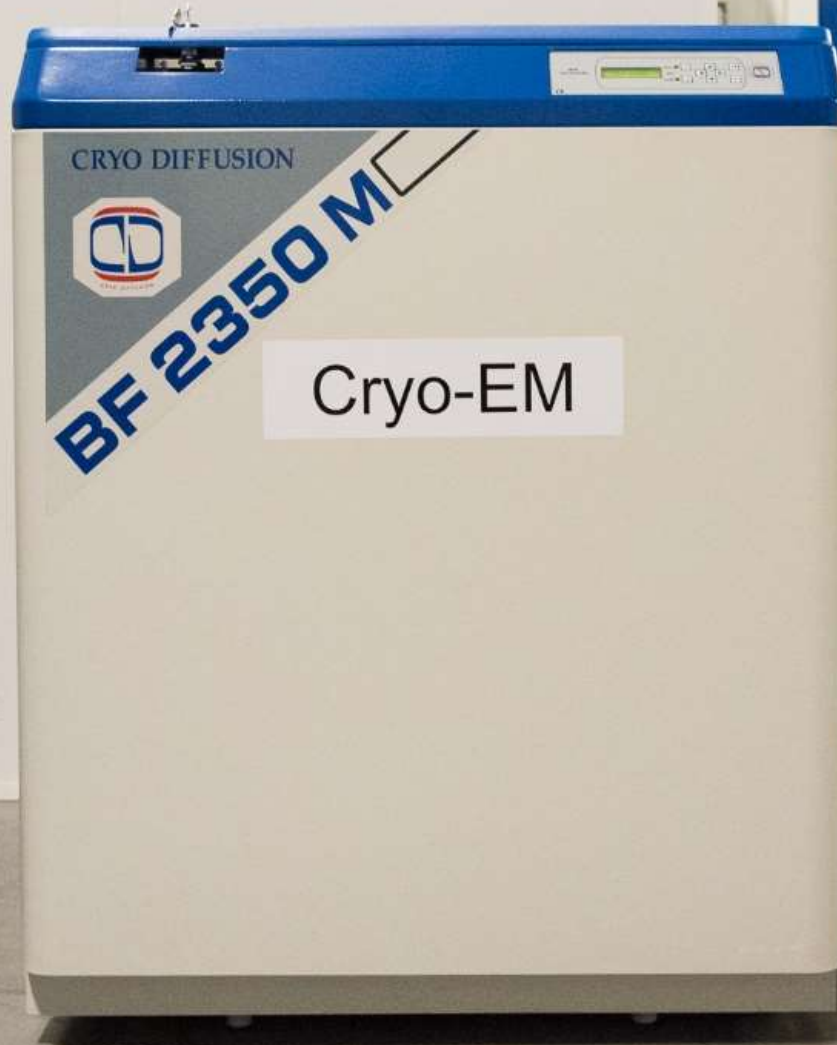
David Flot,
Engineer,
ESRF

Isai Kandiah,
Scientist, ESRF

Christoph Mueller-
Dieckmann,
Scientist, ESRF

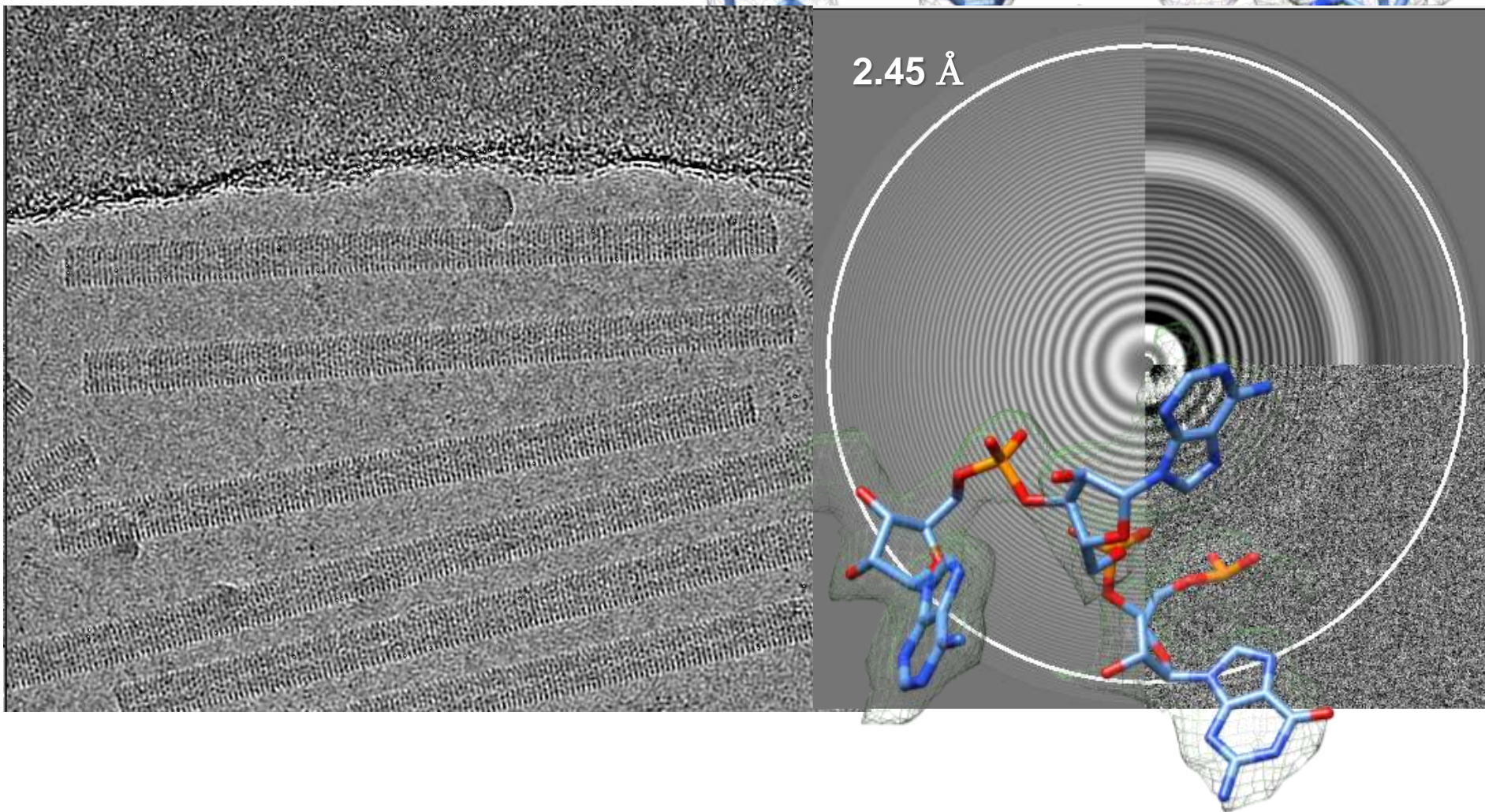
CM01 - INFRASTRUCTURE

Cryo-EM



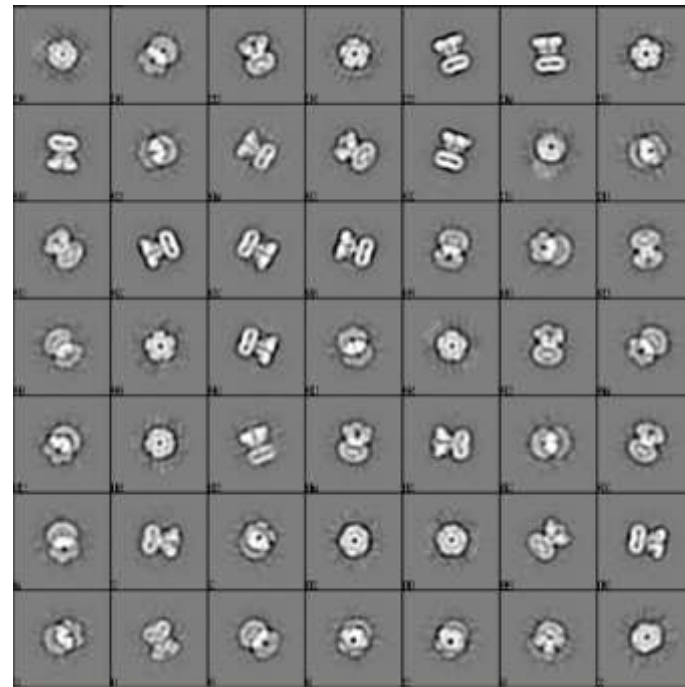
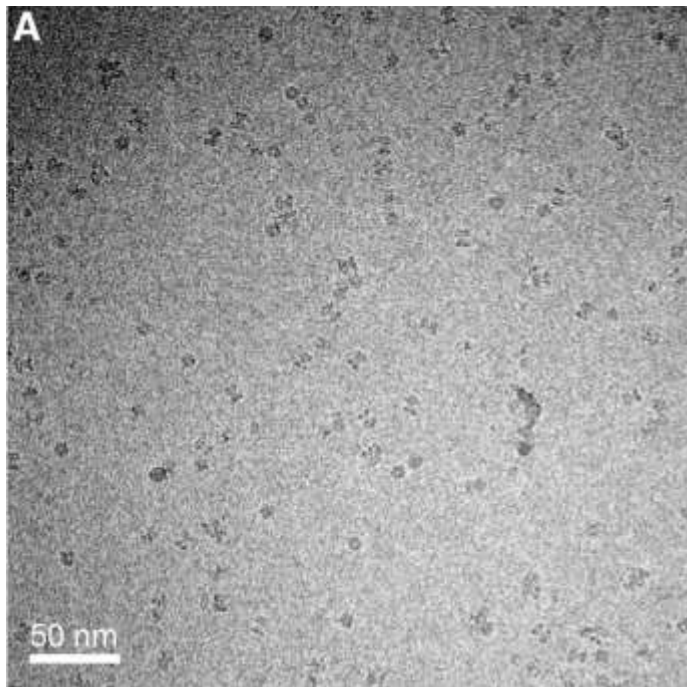
Cryo-EM





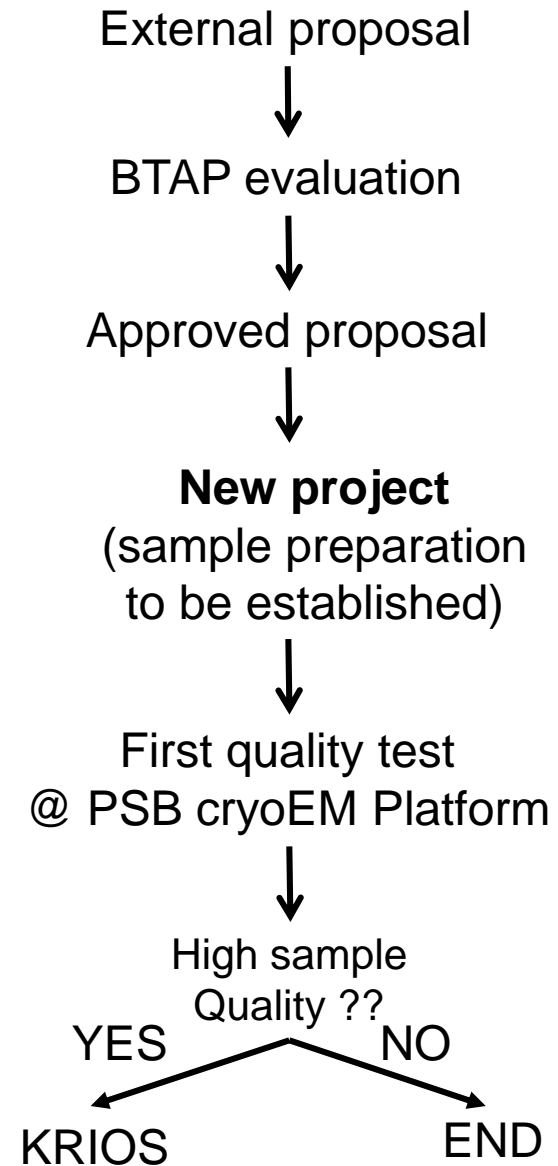
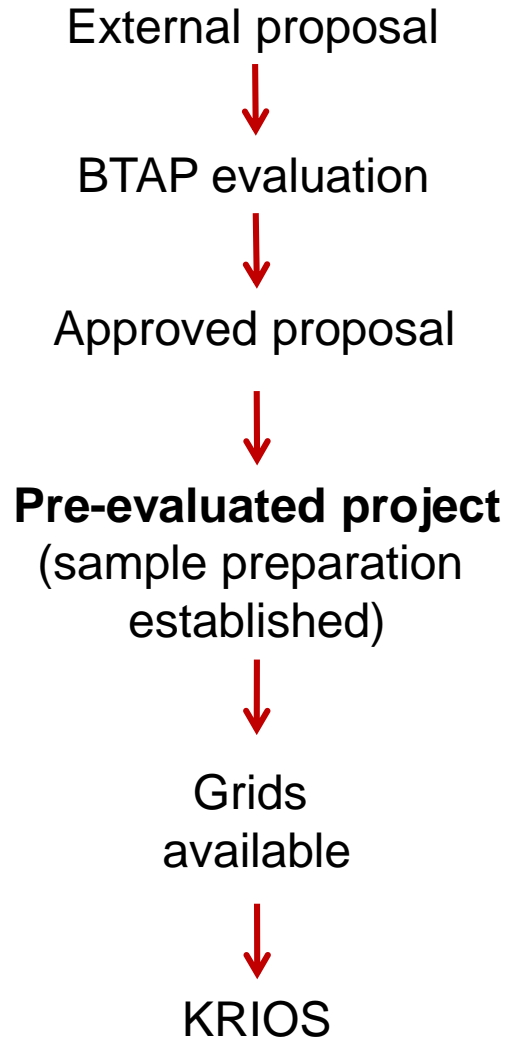
Rolling access proposals

➤ BTAP



doi: 10.1016/j.cell.2015.12.055

CM01 – WORKFLOW – FROM SUBMISSION TO DATA



- **600 shifts per year**
- **9 shifts, each of 8 hours, per proposal**
- **2 Proposals per week**
 - **Proposal 1 : Monday to Thursday (Tuesday MDT)**
 - **Proposal 2: Friday to Sunday**
- **9 shifts program:**
 - **1 shift for screening and setting up of data collection (User's presence is useful)**
 - **8 shifts of automated data collection (User's presence not needed)**

CRYO-EM PLATFORM @ EPN



Titan Krios @ ESRF
+ sample preparation



Cryo-EM
@ EMBL-Gr



POLARA

Cryo-EM
@ IBS





F20



T12


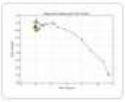




CM01 – ON-THE-FLY PROCESSING AND ISPYB UPLOAD

 **ExiMX** *Extended ISPyB for MX^{BETA}* Version: 5.4.4
Released: 20171211 


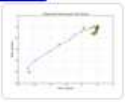


Home Shipment Prepare Experiment Data Explorer Manager Help SMIS Log out @k

New Tab

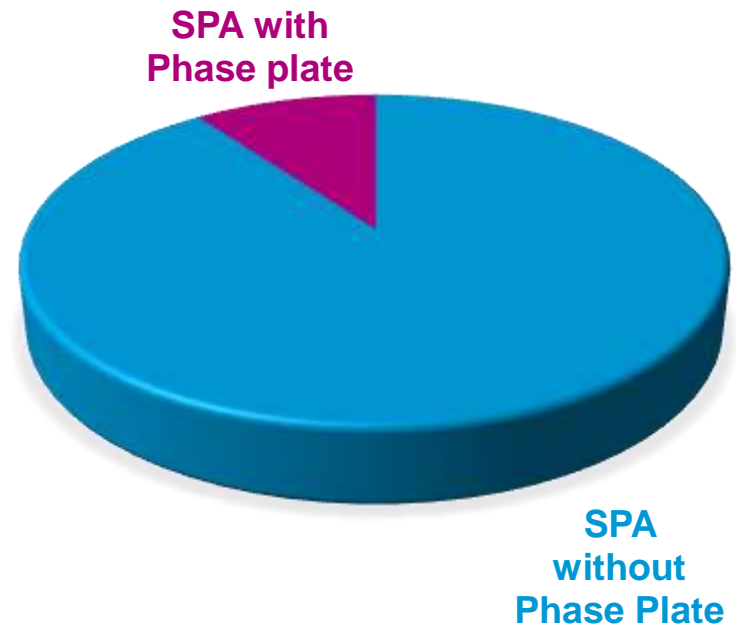
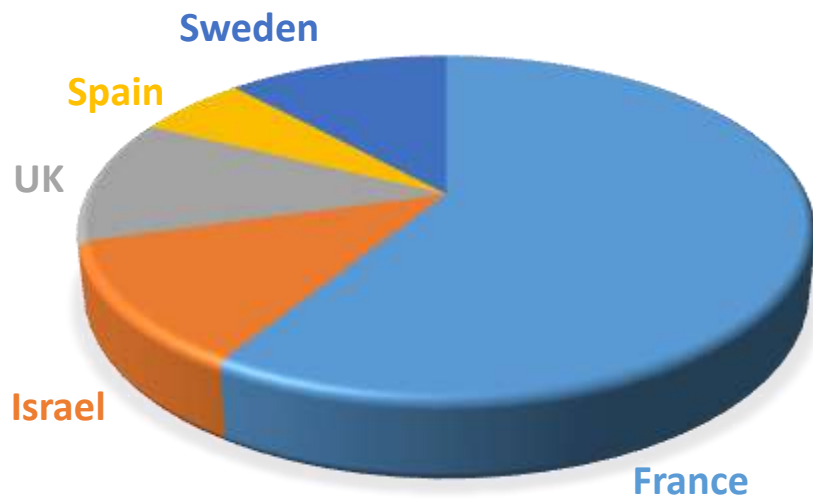
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X, Y	-0.000, -0.000		Avg. Motion/frame	4.9			Correlation	0.124072	Estimated B factor	135.55	
Dose	0.7700		Frame Range	1 - 40			Defocus U	21742.38			
			Dose	1.1000			Defocus V	21535.78			

Movie #12223 03-02-2018 22:32:32

Instrument MR

Movie		Motion Correction		CTF							
Number	12223		Total Motion	199.8			Resolution Limit	3.266	Angle	20.93	
X, Y	-0.000, -0.000		Avg. Motion/frame	5.0			Correlation	0.132302	Estimated B factor	134.27	
Dose	0.8000		Frame Range	1 - 40			Defocus U	17526.38			
			Dose	1.1000			Defocus V	17974.08			

CM01 – ON-THE-FLY DATA BACK-UP POSSIBLE



CM01 DURING EBS SHUTDOWN

- **CM01 will be operational during EBS shutdown**
- **ILL Beamline schedule will be followed for Guest house and Canteen support**
- **9 shifts, each of 8 hours, per proposal**
- **2 Proposals per week**
 - **Proposal 1 : Monday to Thursday (Tuesday MDT)**
 - **Proposal 2: Friday to Sunday**
- **9 shifts program:**
 - **1 shift for screening and setting up of data collection (User's presence is useful)**
 - **8 shifts of automated data collection (User's presence not needed)**