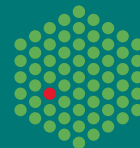


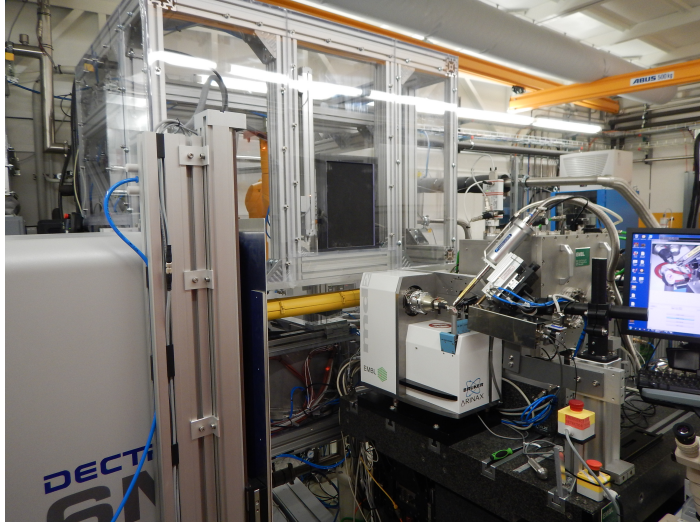
# Status report: EMBL Hamburg

Ivars Karpīčs

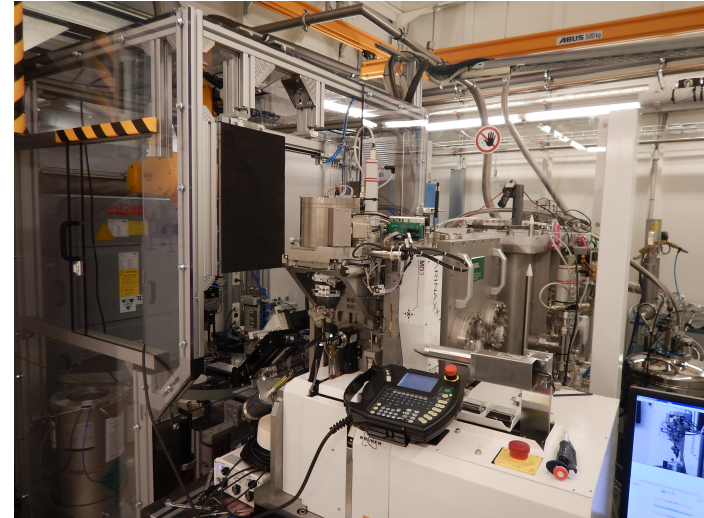
EMBL



# MX beamlines P13 and P14



- Variable beam size and high flux
- Tunable energy between 4.5 and 17.5 KeV
- MD2 diffractometer and Pilatus6MF
- EMBL Marvin sample changer with 16 pucks



- Micro-beam conditions with 5 x 5 micron beam
- On the fly changeable focusing of the beam
- Tunable energy and CRLs (ESRF/CINEL)
- MD3 diffractometer and Pilatus6MF
- EMBL Marvin sample changer with 16 pucks
- Plate scanning possibilities

## After the last meeting

- Few months shutdown at the beginning of the year.
- Visiting SOLEIL in March.
- No Qt3 support after the last meeting (December 2015).
- GUI development and maintenance on Qt4 version.
- Qt4 version in full operation (internal and external users) since March 2016.
- Working mainly on master branch. Master branch deployed at beamlines.
- Sync of master and 2.1, 2.2 is pending. A task for developers during the workshop?

# Current status at P13

The screenshot displays the X-ray diffraction control software interface. The main window shows a diffraction pattern with a red crosshair indicating the beam center. The interface is divided into several panels:

- Top Panel:** Contains menu options (File, View, Graphics, Help) and a toolbar with various icons for file operations and data management.
- Left Panel:** Includes a 'Sample centring' section with fields for Omega (360.00), Kappa (-0.50), Phi (0.01), and Tilt (10.0). Below this is a 'Front light' and 'Back light' section with intensity and focus controls.
- Center Panel:** Features a 'Standard Collection' section with acquisition parameters such as 'Oscillation start: 360.00', 'Number of images: 1', 'Exposure time (s): 0.04', 'Energy (keV): 8.0002', 'Resolution (Å): 3.934', and 'Transmission (%): 5.02'. It also includes a 'Data location' field and a 'File name' field.
- Right Panel:** Contains an 'ISPyB proposal' section with a tree view of sample positions (Puck 1 to Puck 15) and a 'Machine current' section showing '99.1 mA' and 'Machine state: Idle'. Below this are various control buttons for 'Door interlock', 'Safety shutter', 'Fast shutter', and 'Image tracking'.
- Bottom Panel:** Displays a 'Characterisation' section with 'Phase: Centring' and 'Helical Collection' options. It also includes a 'Collect Queue' section with a 'Collect Now' button and a log of recent events.

- Main working area:
- General debugging
  - Feature development
  - Improving SC stability
  - Sample changer statistics
  - Working with auto-centering (commit to lucid2 to be able to use numpy array as argument)
  - Improved logging
  - Collect now button

# Current status at P14

The screenshot shows the SROP interface with the following components:

- Top Panel:** File, View, Tools, Graphics, Help. Collect, Log, Test, Diagnostics. Sample centring. Omega: 179.58, Front light: 0.00, Back light: 1.10, 0.2.
- Left Panel:** Save, Load, Line, Energy (12.2997 keV), Resolution (5.125), Transmission (100.0%), Focus, Shutters, Standard Collection, Acquisition, Data location, Folder, File name, Prefix, Run number, Processing, N.A. residue, Space group, Unit cell, a, b, c, alpha, beta, gamma, Run processing after collection.
- Center Panel:** Collection method template, Acquisition, Oscillation start, Number of images, Exposure time, Energy, Resolution, Transmission, Focus, Shutters, Data location, Folder, File name, Prefix, Run number, Processing, N.A. residue, Space group, Unit cell, a, b, c, alpha, beta, gamma, Run processing after collection.
- Right Panel:** Machine contact, Machine status, Flux, Hatch temperature, Hatch humidity, Storage disc space, Free, Crop position, In place, Energy, Current, Wavelength, Set to, Transmission, Current, Set to, Resolution, Current, Set to, Beamstop distance, Current, Set to, User interface, Locked (unlock enabled), Safety shutter, Beam shutter, Feat shutter, Image tracking, Enable Adv. Image tracking, Detector status, Temperature, Humidity, Current users, My name.
- Bottom Panel:** Beam size, Beam focusing, CRL, Slits, Aperture, Horizontal, Vertical, Phase, Centring, Advanced, Add to queue.

Main working area:

- CRL user friendly control
- Intensity measurement procedure
- Procedure to align beam
- Plate manipulator
- Graphical tool to define beam size with slits
- Link ISPyB sample with manually mounted sample

More info about Qt4 and HardwareObjects in the next presentations...

**Thank you for you attention!**