Instruct-ERIC Training Course

Fully remote data collection on eBIC cryoEM's

10th – 21st May, 2021

Hosted online

Organiser: Kyle Morris (eBIC) & Alistair Siebert (eBIC)

Day 1: Talos (mostly instructor led)

Time	Activity
10:00–10:10	**Arrival**: Introduction and welcome on Teams
10:10–10:50	**Session 1:** Tools: Teams & IspyB
10:50–11:00	Morning break
11:00–12:00	**Session 1:** Tools: NoMachine (NX)
12:00–13:00	Lunch
13:00–14:30	**Session 2:** Atlas inspection and EPU setup (Instructor, allow user if instructor happy)
14:30–15:00	Coffee Break
15:00–16:00	**Session 2:** Preliminary data collection set up for few hours

Day 2: Talos (allowing student control)

Time	Activity
10:00–10:50	**Session 3**: EPU setup movie and discussion: concepts & imaging modes
10:50–11:00	Morning break
11:00–12:00	**Session 3:** On-the-fly data processing setup (demo on session 2 data)
12:00–13:00	Lunch
13:00–14:00	**Session 4:** Allow users NX access – look around EPU software, questions, take a test atlas, add targets, familiarize with EPU, etc
14:00–14:30	**Session 4:** On-the-fly data inspection
14:30–15:00	Coffee break
15:00–16:00	**Session 4:** Inspect preliminary results and discuss

Day 3: Krios ('full' student control)

Time	Activity
10:00–10:50	**Session 5**: EPU: setup (NX users with instructor)
10:50–11:00	Morning break
11:00–12:00	**Session 5:** EPU: start collection on 1-3 square automatic (NX users with instructor)
12:00–13:00	Lunch
13:00–14:00	**Session 5:** EPU: Inspect results, proceed or add manual targets (NX users with instructor)
14:00–14:30	Coffee break
14:30–16:00	**Session 5:** Inspect preliminary results and discuss whether to continue session to 48hr

Background

This course will introduce and demonstrate our preferred tools for discussing experiments and keeping contact, IspyB mediated sample shipping, EPU concepts/setup and IspyB mediated on-the-fly data processing. Each cohort of approximately 2 people will be scheduled two 8hr Talos sessions followed by one 8hr Krios session.

We encourage applications from candidates who can ship pre-screened single particle grids to eBIC for use during the course. In the case that evidence can be provided of high-quality pre-screened single particle grids and preliminary high-resolution analysis, we may extend the Krios session to 48hrs for data collection.

Instructions to attendees

– Please download and set up prior to the course start:

Microsoft Teams (set up using the email you registered with on the course)

NoMachine

– Please check you know your FedID:

https://www.diamond.ac.uk/Users/Experiment-at-Diamond/IT-User-Guide.html

– Please note your cohort number and refer to the programme and visual timetable on the following page to check your session running dates.

– You will be sent a virtual meeting invitation prior to the start of your course, to the email with which you registered.

– For participants shipping specimens:

Please bring details of your specimen and grids, along with preliminary 2D averages to indicate what we should expect. The parameters used to generate those 2D classes should be provided to simplify setting up our processing pipeline.

Date	Mon 10	Tue 11	Wed 12	Thu 13	Fri 14	Sat 15	Sun 16	Mon 17	Tue 18	Wed 19	Thu 20	Fri 21	Sat 22	Sun 23
Cohort I	Day 1	Day 2	Day 3	Bonus										
Session	Talos	Talos	Krios I	Krios I										
LC	*Yun*	*Yun*	*Yuriy*	*Yuriy*										
ID	BI23047-52	BI23047-52	BI23047-53	BI23047-53										
Cohort II			Day 1	Day 2	Day 3	Bonus								
Session			Talos	Talos	Krios I	Krios I								
LC			*Yun*	*Yun*	*Dan*	*Dan*								
ID			BI23047-52	BI23047-52	BI23047-54	BI23047-54								
Cohort III								Day 1	Day 2	Day 3	Bonus			
Session								Talos	Talos	Krios IV	Krios IV			
LC								*Vinod*	*Vinod*	*Alistair*	*Alistair*			
ID								BI23047-52	BI23047-52	BI23047-55	BI23047-55			
Cohort IV										Day 1	Day 2	Day 3	Bonus	
Session										Talos	Talos	Krios IV	Krios IV	
LC										*Vinod*	*Vinod*	*Julika*	*Julika*	
ID										BI23047-52	BI23047-52	BI23047-56	BI23047-56	

Talos sessions
Krios session
Krios session (if sample of proven quality)