

**\*\*\*\* Schedule \*\*\*\* Cryo-Electron Microscopy Course at OIST (Feb. 3-7th, 2020)**

<b>Monday, February 3</b>			
9:00-9:10	Opening remarks	Bruno Humbel	
9:10-10:00	<b>Opening Talk :</b> <b>Asymmetric reconstruction of filamentous proteins by single particle cryo-EM</b>	Matthias Wolf	
10:00-10:15	Break		Lab3 C700
10:15-11:15	Lecture: Basics of cryo-TEM: Overview and biological aspects (sample preparation, dose damage, etc)	Kaoru Mitsuoka	
11:15-12:05	Presentation : HCV IRES captures a translating 80S ribosome to hijack host translational machinery	Takashi Yokoyama	
12:05-12:35	Short presentation by participants	Participants	
12:35-13:35	Lunch		
13:35-15:35	<b>Hands-on session 1</b>		Lab Pre-registered members only
	Group 1: Negative staining sample preparation & Basic training on Talos L120C	Kanno, Yokoyama	
	Group 2: Basic training on Talos Arctica	Gosia, Aoyama	
	Group 3: Cryo sample preparation	Kuwahara, Adachi	
15:35-16:00	Break		
16:00 - 18:00	<b>Hands-on session 2</b>		Lab Pre-registered members only
	Group 1: Cryo sample preparation	Kuwahara, Adachi	
	Group 2: Negative staining sample preparation & Basic training on Talos L120C	Kanno, Yokoyama	
	Group 3: Basic training on Talos Arctica	Gosia, Aoyama	
<b>Tuesday, February 4</b>			
9:00 - 9:15	Q&A	All	
9:15-10:15	Lecture: Hardware and Optics (architecture of TEM, lenses, detector, etc)	Takayuki Kato	Lab1 B503
10:15-10:30	Break		
10:30-12:30	<b>Hands-on session 3</b>		Lab Pre-registered members only
	Group 1: Basic training on Talos Arctica	Gosia, Aoyama	
	Group 2: Cryo sample preparation	Kuwahara, Adachi	
	Group 3: Negative staining sample preparation & Basic training on Talos L120C	Kanno, Yokoyama	
12:30-13:30	Lunch		
13:30-15:30	<b>Keynote Lecture</b>	Holger Stark	Lab3 C700
15:30-16:00	Break + Group Photo		

16:00-18:00	<b>Hands-on session 4</b>		Lab Pre-registered members only
	Group 1: Negative staining sample screening on Talos L120C	Kanno, Yokoyama	
	Group 2: Cryo sample screening on Talos Arctica	Takizawa, Sugita	
	Group 3: Automated data collection on Titan Krios	Kuwahara, Gosia	
19:00-21:00	Dinner	All	
<b>Wednesday, February 5</b>			
9:00-9:15	Q&A	All	Lab1 B503
9:15-10:15	Lecture: Image reconstruction: Principle and practice	Hideki Shigematsu	
10:15-10:30	Break		
10:30-11:20	Presentation: Cryo-EM at Institute for Protein Science, Osaka University	Yukihiko Sugita	
11:20-12:10	Presentation: CryoEM at Okazaki	Kazuyoshi Murata	
12:10-13:30	Lunch		
13:30-15:30	<b>Hands-on session 5</b>		Lab Pre-registered members only
	Group 1: Cryo sample screening on Talos Arctica	Takizawa, Sugita	
	Group 2: Automated data collection on Titan Krios	Kuwahara, Gosia	
	Group 3: Negative staining sample screening on Talos L120C	Kanno, Murata	
15:30-16:00	Break		
16:00-18:00	<b>Hands-on session 6</b>		
	Group 1: Automated data collection on Titan Krios	Kuwahara, Gosia	
	Group 2: Negative staining sample screening on Talos L120C	Kanno, Murata	
	Group 3: Cryo sample screening on Talos Arctica	Takizawa, Sugita	
<b>Thursday, February 6</b>			
9:00-9:15	Q&A	All	Lab1 B503
9:15-10:05	Presentation: Challenges for the chromatin structure determination by cryo-EM	Yoshimasa Takizawa	
10:05-11:05	Lecture: Advanced techniques of cryo-EM	Radostin Danev	
11:05-11:20	Break		
11:20-12:10	Presentation: Cryo-CLEM and Cryo-FIB for Cryo Electron Tomography	Yoshiyuki Fukuda	
12:10-13:30	Lunch		
13:30-15:30	<b>Hands-on session 7</b>		Lab1 B503
	All Groups: Relion Image processing#1	Rado, Shigematsu, Kato, Mitsuoka	
15:30-16:00	Break		
16:00-18:00	<b>Hands-on session 8</b>		
	All Groups: Relion Image processing#2	Rado, Shigematsu, Kato, Mitsuoka	

<b>Friday, February 7</b>			
9:00-9:15	Q&A	All	Lab1 B503
9:15-10:15	Presentation	Kanno and Gosia	
10:15-10:30	Break		
10:30-12:30	<b>Hands-on session 9</b>	Rado, Shigematsu,	
	All Groups: Relion Image processing#3	Kato, Mitsuoka	
12:30-13:30	Lunch		
13:30-15:30	<b>Hands-on session 10</b>	Rado, Shigematsu,	
	All Groups: Relion Image processing#4	Kato, Mitsuoka	
15:30-15:45	Break		
15:45-16:30	Discussion and closing remarks	Bruno Humbel	

Group 1 Ryoji Suno / Yusuke Sekiguchi / Dang Cao Thuy Linh / Yuki Anraku

Group 2 Kensuke Ishiguro / Michiel de Hoon / Shinya Mimasu / Marie Karen Tracy Hong Lin

Group 3 Kanako Kimura / Laura Bracun / Youngjin Lee / Takashi Nakashima

Invited Instructors:

Radostin Danev (the University of Tokyo)

Yoshiyuki Fukuda (the University of Tokyo)

Yoshimasa Takizawa(the University of Tokyo)

Takeshi Yokoyama (Tohoku University)

Kazuyoshi Murata (NIPS)

Hideki Shigematsu (RIKEN Spring-8 Center)

Yukihiko Sugita (Kyoto University)

Takayuki Kato (Osaka University)

Kaoru Mitsuoka (Osaka University)

Assistant Instructor:

Naruhiko Adachi (KEK)

Instructors from OIST:

Ryusuke Kuwahara (Quantum Wave Microscopy Unit)

Malgorzata Hall & Ryo Kanno (Imaging Section)