

Molecule to Human Boot Camp – September 16-27th

Preliminary timetable

Monday 16th

08.30 – 08.50	Welcome and Practical Information	Anita Dittrich	J115-139
08.50 – 09.20	Introduction to the Boot Camp Workflows	Clara Prats	
09.20 – 10.00	In Vivo Imaging Techniques, An Overview	Michael Pedersen	
10.00 – 10.15	Coffee/tea break		
Session I: The Physical and Technical Principles of Preclinical Imaging			
10.15 – 10.35	Lecture on MRI	Lau Brix	J115-139
10.35 – 10.55	Lecture on CT and μ CT	Kasper Hansen	
10.55 – 11.15	Lecture on PET	Aage Kristian Olsen Alstrup	
11.15 – 11.35	Lecture on Ultrasound	Anita Dittrich	
11.35 – 12.00	Lecture on OCT	Lars Thrane	
12.00 – 13.00	Lunch		Café Nord
Session II – Animal Models for Preclinical Research			
13.00 – 13.25	Rodents, Pre-Clinical Models with Clinical Relevance	Mike Horsman	J115-139
13.25 – 13.50	The Pig, A Clinically Relevant Large Animal Model	Aage Kristian Olsen Alstrup	
13.50 – 14.10	The Axolotl Salamander, Development and Regeneration	Anita Dittrich	
14.10 – 14.45	New Insights from Old Samples - Imaging Museum Specimens	Henrik Lauridsen	
14.45 – 15.00	Coffee/tea break		
Session III – M2H Networking, contributions and expectations			
15.00 – 16.00	Participant Presentations (Group 1): Present your Research in 3 minutes and one slide	Anita Dittrich	J115-139
16.00 – 16.30	Afternoon Application Talk: Fiber Tracking of the Heart Using MRI	Peter Agger	
16.30 – 17.30	Participant Presentations (Group 2): Present your Research in 3 minutes and one slide	Anita Dittrich	
19.00	Social event - Dinner at <u>Markedshallen</u>, Aarhus		

Tuesday 17th

Session IV – Ultrasound and OCT			
09.00 – 09.30	The use of ultrasound in rodent models	Janne Schwab	Forum Level 7
09.30 – 10.00	Biomedical application of OCT Imaging	Lars Thrane	
10.00 – 10.15	Coffee/tea break		
Parallel Demo Sessions on Ultrasound and OCT			
10.15 – 12.00	US and OCT Demos - Rotation 1		
12.00-13.00	Lunch		Café Nord
13.00 – 14.45	US and OCT Demos - Rotation 2		
14.45 – 15.00	Coffee/tea break		
Session V – Analysis of Ultrasound and OCT			
15.00 – 15.45	Analysis of Ultrasound Data	Henrik Lauridsen	Forum Level 7
15.45 – 16.15	Analysis of OCT Data	Lars Thrane	
16.15 – 16.45	Afternoon Application Talk: Hyperpolarized MRI by Christoffer Lausten		Forum Level 7
17.00-17.45	Demonstration of Hyperpolarized MRI	Christoffer Lausten	MRI Department (G205)

Wednesday 18th

Session VI – PET Imaging			
09.00 – 09.30	PET Imaging in Experimental Metabolic Research	Morten Busk	J115-139
09.30 – 10.00	Traditional and New Experimental PET Tracers in Neurodegenerative Brain Disorders	Per Borghammer	
10.00 – 10.15	Coffee/tea break		
Parallel Demo Sessions on PET and Autoradiography			
10.15 – 11.15	Rotation 1		Forum/ J220
11.15 – 12.15	Rotation 2		
12.15 – 13.15	Lunch		Café Nord
Session VII – CT and μCT			
13.15 – 14.00	How to improve contrast in CT and μ CT imaging	Henrik Lauridsen	J116-112
14.00 – 15.00	Rotation 1	Henrik Lauridsen/ Kasper Hansen	Forensic Department
15.00 – 16.00	Rotation 2	Henrik Lauridsen/ Kasper Hansen	
Social event – Visit to Moesgård Museum			
16.00 – 17.00	Transport to Moesgård		Moesgård Museum
17.00-17.30	Afternoon Application Talk: Spatial Transcriptomics, Imaging Gene Expression	Christian Damsgaard	
17.30 – 18.15	Talk About CT Imaging the Famous “Grauballemand”	Mads Thastrup and René Olsvig	
18.15 – 19.00	Dinner (Museum Café)		
19.00– 21.00	Guided Tour & Free time at the Café/shop		
21.00	Transport Back to Hotel		

Thursday 19th

Session VIII – Clinical translation of bioimaging research			
09.00 – 09.30	Regulatory and ethical considerations for human projects	Suzanne Reitsma Bianchi	Stakladen (Preben Hornungstuen)
09.30 - 10.00	Bridging Clinical and Pre-Clinical Research	Michael Pedersen	
10.00 - 10.30	Lecture on Fundamental Principles of Fluorescence and Luminescence	Lene Nejsum	
10.30 – 11.15	Walk in the University Park with Anita Dittrich		
11.15 – 11.45	In Vivo Fluorescence and Luminescence Imaging with the Newton In Vivo Scanner	Mette Richner	Stakladen (Preben Hornungstuen)
11.45 – 12.15	2-photon In Vivo Imaging	Nina Burmeister	
12.15 -13.00	Lunch		
13.00-14.00	Analysis of PET, MRI and CT Data	Henrik Lauridsen	Stakladen (Preben Hornungstuen)
14.00 – 15.00	Farwell with drinks and snacks		
Train to Copenhagen			

Friday 20th

10.00 – 10.15	Welcome to the University of Copenhagen	Clara Prats	
Session IX: The Physical and Technical Principles of Light Microscopy Imaging			
10.15 – 12.00	Principles of Light Microscopy (Interactive lecture)	Clara Prats	15.2.18
12.00 – 13.00	Lunch		Canteen
13.00 – 15.00	Power and limitations of advanced fluorescence microscopy technologies (Interactive lectures)	Thomas Braunstein Clara Prats	15.2.18
15.00 – 15.15	Coffee/tea break		15.2.18
15.15 – 17.00	Power and limitations of advanced fluorescence microscopy technologies (Interactive lectures)	Thomas Braunstein Clara Prats Richard De Mets	15.2.18

Saturday 21st

11.00 Social event – Excursion to Kronborg Castle
The home of Shakespeare's Hamlet

Monday 23rd

Session X – Confocal microscopy, Multiphoton and Light Sheet					
09.00 – 09.45	Confocal microscopy – Laser scanning versus Spinning Disk		Thomas Braunstein Pia Nyeng		15.2.18
09.45 – 10.45	Deep imaging – Multiphoton versus light sheet microscopy		Jana Harizanova, Sunny Dai		
10.45 – 11.00	Coffee/tea break				
Parallel Demo Sessions on LSM, SD, MP and SPIM					
11.00 – 13.00	Group 1 Live imaging with LSM	Group 2 Live imaging with SD	Group 3 BF/WF slide digitalization	Group 4 Deep imaging with SPIM	CFIM 21.01
13.00-14.00	Lunch				
14.00 – 16.00	Group 3 Live imaging with LSM	Group 4 Live imaging with SD	Group 1 BF/WF slide digitalization	Group 2 Deep imaging with SPIM	CFIM 21.01
Session XI - Thematic invited lecture					
16.15 – 17.30	The MRI rollercoaster: from High-Field to Low-Field. Why less is more? By Beatrice Lena and Chloe Najac, Department of Radiology, Leiden University Medical Centre				Faculty Club 16.6
19.30	Social event – Dinner at Restaurant Bouillon				

Tuesday 24th

Session XII – From Bright-field/Wide-field to Super Resolution Microscopy						
09.00 – 09.45	BF/WF slide digitalization – the power of unbiased/automatized quantitative analysis			Thomas Braunstein		15.2.18
09.45 – 10.45	Super Resolution technologies			Clara Prats		
10.45 – 11.00	Coffee/tea break					
Parallel Demo Sessions on WF/BF, Airyscan, SIM, STED and SMLM						
11.00 – 12.00	Group 1 Work group on M2H legacy	Group 2 Airyscan	Group 3 STED	Group 4 SIM	CFIM 21.01	
12.00 – 13.00	Group 4 Work group on M2H legacy	Group 1 Airyscan	Group 2 STED	Group 3 SIM		
13.00-14.00	Lunch					
14.00 – 15.00	Group 3 Work group on M2H legacy	Group 4 Airyscan	Group 1 STED	Group 2 SIM	CFIM 21.01	
15.00 – 16.00	Group 4 Work group on M2H legacy	Group 1 Airyscan	Group 2 STED	Group 3 SIM		
Session XI - Thematic invited lecture with snacks and drinks						
16.15 – 17.30	The Molecule to Human boot camp legacy – Where do we go from here? By Clara Prats				Faculty Club 16.6	

Wednesday 25th

Session XIII – M2H Workflows group work			
09.00 – 10.45	Axolotl heart regeneration model group work Mice type 1 diabetes model group work	Anita Dittrich Jon Vegara	Faculty Club 16.6
10.45 – 11.00	Coffee/tea break		
Group work presentation of collected data and research questions			
11.00 – 13.00	Presentation of Axolotl heart regeneration model, research questions and collected data. Brainstorming on Image analysis approach/strategy		Faculty Club 16.6
13.00-14.00	Lunch		
14.00 – 16.00	Presentation of Mice type 1 diabetes model, research questions and collected data. Brainstorming on Image analysis approach/strategy		Faculty Club 16.6
Session XI - Thematic invited lecture with snacks and drinks			
16.15 – 17.30	The Global BioImaging network, the Imaging4All project and other user access and training opportunities by Gleb Grebnev, Manager of the training program, Globalbioimaging		Faculty Club 16.6
18.00	Social event - Global cooking and dinner		Faculty Club 16.6

Thursday 26th

Session XIV – M2H Workflows Image Analysis group work			
09.00 – 11.00	Group work on Image analysis projects	Richard De Mets, Tricia Loo Julia Mertesdorf, Peidi Xu Anita Dittrich	CFIM and DBI-INFRA IACF
11.00 – 11.15	Coffee/tea break		
11.15 – 13.00	Group work on Image analysis projects	Richard De Mets, Tricia Loo Julia Mertesdorf, Peidi Xu Anita Dittrich	CFIM and DBI-INFRA IACF
13.00-14.00	Lunch		
14.00 – 15.30	Group work on Image analysis projects	Richard De Mets, Tricia Loo Julia Mertesdorf, Peidi Xu Anita Dittrich	CFIM and DBI-INFRA IACF
15.30 – 15.45	Coffee/tea break		
15.45 – 17.30	Group work on Image analysis projects	Richard De Mets, Tricia Loo Julia Mertesdorf, Peidi Xu Anita Dittrich	CFIM and DBI-INFRA IACF

Friday 27th

Session XV – M2H Workflows presentations		
09.00 – 11.00	Group work to co-create workflow presentations	Faculty Club 16.6
11.00 – 11.15	Coffee/tea break	
11.15 – 13.00	Group work to co-create workflow presentations	Faculty Club 16.6
13.00-14.00	Lunch	
14.00 – 15.00	Presentation of the results from the Axolotl heart regeneration model	Faculty Club 16.6
15.00 – 16.00	Presentation of the results from the Mice type 1 diabetes model	
16.00 – 17.15	Imaging across length scales – from single molecules to across the globe by Teng-Leong Chew, Director of Advanced Imaging, Janelia	
17.15 – 18.15	M2H boot camp closing session – Evaluation, feedback & community sustainability	
CZI M2H Boot Camp closing dinner and Social event		