An interdisciplinary summer school on mining of biological data for master and PhD students

Time	Saturday 11.	Sunday 12.	Monday 13.	Tuesday 14.	Wednesday 15.	Thursday 16.	Friday 17.	Saturday 18.
			Course	Course	Course	Course	Course	Mini-workshop
			Taxi leaves at 7:45	Taxi leaves at 08:00	Taxi leaves at 08:00	Taxi leaves at 08:00	Taxi leaves at 08:00	Taxi leaves at 08:00
8:15-8:30			Introduction					
8:30-9:15	Arrival and in the evening: dinner at Vestby hyttepark at 18:00	Social program whole day: Tour on the Campus, Boat trip on the Oslo Fjord to Oscarsborg, Drøbak and pizza in Drøbak. Taxi leaves Vestby hyttepark at 10:45.	*Orange Introduction* (Dr. Marko Toplak University of Ljubljana and SMIS Beam-line Synchrotron Soleil) Room: U227	Invited lecture: Peter Nazarov, Luxembourg Institute of Health, Department of Oncology *Single Cell transcriptomics* Room: U227	*Orange Introduction* (Dr. Marko Toplak) Room: U227	Invited lecture: Prof. Dr. Boris Mizaikoff, University of Ulm, Germany *IR Sensor Technologies for Biomedical Applications* Room: U227	Invited lecture: Dr. Christoph Sandt, SMIS Beam-line Synchrotron Soleil, Paris, France *Challenges in data analysis of infrared spectra from biological and biomedical samples* Room: U227	Invited lecture 1: Dr. Ferenc Borondics, SMIS Beam-line Synchrotron Soleil, Paris, France *Big facilities, big data* Festsalen
09:15-10:00			Module 3: Spectroscopic methods (Olga) Room: U227	Module 4: Analytical methods used in biology (Olga) Room: U227	Module 5: Biomedical Imaging (Vassili) Room: U227	*Group work (Experts in a Team)* Rooms: U223 and U226	*Group work (Experts in a Team)* Rooms: U223 and U226	Workshop with research presentations by PhD students Festsalen
10:00-10:15			Break					
10:15-10:45			Module 6: Basic Statistics (Victor) Room: U227	Module 9: Machine learning (Roman) Room: U227	Module 12: Data pre-treatment (Achim) Room: U227	Group work *(Experts in a Team)* Rooms: U223 and U226	Group work *(Experts in a Team)*	Workshop with research presentations by PhD students Festsalen
10:45-12:00			Tutorial: Basic statistics (Victor) Rooms: U223 and U226	Tutorial: Machine learning (Roman) Rooms: U223 and U226	Tutorial: Data pre-treatment (Achim) Rooms: U223 and U226			
12-13			Lunch					
13:00-13:30			Module 7: PCA (Achim) Room: U227	Module 10: Deep learning (Vassili) Room: U227	Tutorial for modules 6-12, further Data Analysis and Orange Rooms: U223 and U226

Topics for group work will be distributed together with the data | Group work *(Experts in a Team)* Rooms: U223 and U226 | Group work presentations Rooms: U223 and U226 | Workshop with research presentations by PhD students Festsalen |
13:30-14:45			Tutorial: PCA (Achim) Rooms: U223 and U226	Tutorial: Deep learning (Vassili) Rooms: U223 and U226				
14:45-15:00			Break					
15:00-15:30			Module 8: Clustering (Petr) Room: U227	Module 11: Data analysis of genetic data (Vasily) Room: U227				
15:30-16:45			Tutorial: Clustering (Petr) Rooms: U223 and U226	Tutorial: Data analysis of genetic data (Vasily) Rooms: U223 and U226				
Evening			Movie night and hot dogs on Campus	Volley ball/soccer on Campus and barbecue	Free	Free	Trip to Oslo and dinner in Oslo	Workshop dinner

All lecture rooms are in the Clock Building (U227, U223 and U226 and Festsalen).