

Schedule “Accelerating climate resilient plant breeding by applying –omics and artificial intelligence” (3 ECTS) 20-24 April 2020 at SLU Alnarp Updated 29 March

Day 1	Monday 20 April	Location
Morning	Theme: Introduction/’-omics’ data for plant breeding	
10:00-11:00	Introduction of the course and “Different ‘omics’ methods: NGS revolution and transcriptomics” Erik Alexandersson (SLU)	Plantan
11:00-12:00	Introduction with short presentations by the participants	Plantan
Afternoon		
13:00-14:30	Brief overview of ‘omics’ techniques in plant breeding and protection” Erik Alexandersson (SLU)	Spiltan
14:30-15:00	Coffee	
15:00-16:00	Plant breeding in an ‘-omics’ era Rodomiro Ortiz (SLU)	Spiltan
16:15-17:00	The pan-genome, Dan Jacobson (ORNL)	Plantan
17:00-17:30	Introduction journal club, Erik Alexandersson (SLU),	Plantan
18:00-	PlantLink Mingle with light dinner	Alnarp
Day 2	Tuesday 21 April	
Morning	Theme: Integration of data	
9.00-12.00	Integration of plant data, Kristina Gruden, NIB Slovenia	Plantan
Afternoon	Theme: Integrated analysis	
13.00-14:15	“-omics” for forestry production and breeding – poplar as an example; Antoine Harfouche (UNITUS)	Spiltan
14.15-15.00	Coffee	
15.00-17.00	Genome-wide association studies (GWAS)-based systems biology, Dan Jacobson (ORNL)	Spiltan
Day 3	Wednesday 22 April	
Morning	Theme: Plant physiology/Proteomics	

9.00-11:00	High Throughput Water Relations & Hormone Measurements, Ian Dodd (Lancaster University)	Plantan
11:00-12:00	Making sense of “-omics” data for AI, Antoine Harfouche (UNITUS)	Plantan
Afternoon		
13:00-15:00	Practice: Field phenotype-to-trait by machine learning Antoine Harfouche (UNITUS),	Plantan
15:00-15:30	Coffee	
15:30-17:30	Proteomics for breeding traits, Svante Resjö (SLU)	Plantan
Day 4	Thursday 23 April	
Morning	Machine learning and AI/Pre-breeding	
9:00-11:00	Time for journal club preparations	
11:00-12:00	Practice: Integrating –omics data, Erik Alexandersson (SLU), Annabel Large (ORNL/SLU)	Plantan
Afternoon		
13:00-14:00	Practical exercise cntd	Plantan
14:00 -15:00	Breeding for insect resistance and working with pre-breeding Therese Bengtsson (SLU)	Plantan
15:00-17:00	AI for plant breeding – AI-driven Genomic Selection, Antoine Harfouche (UNITUS), Dan Jacobson (ORNL)	Plantan
17:00-18:00	Climatypes and microbiomes, Dan Jacobson (ORNL), Antoine Harfouche (UNITUS)	Plantan
Day 5	Friday 24 April	
Morning	Theme: Journal club and Breeding for different climates	
9.00-12.00	Journal club. Open discussion. Course evaluation. Erik Alexandersson, Antoine Harfouche	Group rooms in Articum/H-house and/or Zoom meeting rooms online
12:00	Lunch	
Afternoon		

13:00-13:45	"Strengthening the interface between science (plant breeding) and policy for sustainable agricultural development", Antoine Harfouche (UNITUS)	Spiltan
13:45-14:00	The Talent Attraction Strategic Action Plan at UNITUS, Antoine Harfouche (UNITUS)	Spiltan
14:00	Coffee break	
14:30-15:30	Climatypes and microbiomes, Dan Jacobson (ORNL), Antoine Harfouche (UNITUS)	Plantan
15:30-16:00	Final remarks, Dan Jacobson (ORNL), Antoine Harfouche (UNITUS), Erik Alexandersson (SLU)	Plantan