## Schedule “Accelerating climate resilient plant breeding by applying –omics and artificial intelligence” (3 ECTS) 20-24 April 2020 at SLU Alnarp Updated 15 April

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| **Day 1** | **Monday 20 April** | Location |
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| **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 |
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| **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 |
| 17:00-17:15 | Introduction journal club, **Erik Alexandersson** (SLU) | Plantan |
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| **Day 2** | **Tuesday 21 April** |  |
| **Morning** | **Theme: Integration of data**  |  |
| 9.00-12.00 | Integration of plant data, **Kristina Gruden, NIB Slovenia** | Plantan |
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| **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 |
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| **Day 3** | **Wednesday 22 April** |  |
| **Morning** | **Theme: Plant physiology/Phenomics/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 |
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| **Afternoon** |  |  |
| 13:00-15:00 | **Computer lab 1**: 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 |
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| **Day 4** | **Thursday 23 April** |  |
| **Morning** | **Machine learning and AI/Pre-breeding** |  |
| 9:00-10:00 | Time for journal club preparations |  |
| 10:00-11:00 | Introduction MOFA: Integrating –omics data, **Oren Tzfadia** (Institute of Tropical Medicine in Antwerp) | Plantan |
| 11:00-12:00 | **Computer lab 2:** Integrating –omics data **Erik Alexandersson** (SLU), **Annabel Large (**ORNL/SLU**),** | Plantan |
| 12:00-13:00 | Lunch |  |
| **Afternoon** |  |  |
| 13:00-14:00  | Journal club preparations/Computer lab 2 |  |
| 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 |
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| **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, Svante Resjö | Group rooms in Articum/H-house and/or Zoom meeting rooms online |
| 12:00 | **PlantLink** lunch boxes and distance mingle! | H-house seminar room |
| **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 continued, **Dan Jacobson** (ORNL), **Antoine Harfouche** (UNITUS) | Plantan |
| 15:30-16:00 | Final remarks, Dan Jacobson (ORNL), Antoine Harfouche (UNITUS), Erik Alexandersson (SLU) | Plantan |