## Schedule “Accelerating climate resilient plant breeding by applying –omics and artificial intelligence” (3 ECTS) 20-24 April 2020 at SLU Alnarp Updated: 4 March

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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) | Articum 3 |
| 11:00-12:00 | Introduction with short presentations by the participants. | Articum 3 |
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| **Afternoon** |  |  |
| 13:00-14:30 | Brief overview of 'omics' techniques in plant breeding and protection” **Erik Alexandersson** (SLU) | Articum 3 |
| 14:30-15:00 | Coffee |  |
| 15:00-16:00 | Plant breeding in an ‘-omics’ era **Rodomiro Ortiz** (SLU) | Articum 3 |
| 16:00-17:00 | The pan-genome, **Dan Jacobson** (ORNL) | Articum 3 |
| 17:00-17:30 | Introduction journal club, **Erik Alexandersson** (SLU), | Articum 3 |
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| 18:00- | **PlantLink** Mingle with light dinner |  |
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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** | Articum 3 |
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| **Afternoon** | **Theme: Integrated analysis** |  |
| 13.00-14:30 | “Genome-wide association studies” (GWAS)-based systems biology” **Dan** **Jacobson** (ORNL) | Articum 3 |
| 14.30-15.00 | Coffee |  |
| 15.00-17.00 | “-omics” for forestry production and breeding – poplar as an example” **Dan** **Jacobson** (ORNL); **Antoine Harfouche** (UNITUS) | Articum 3 |
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| **Day 3** | **Wednesday 22 April** |  |
| **Morning** | **Theme: Plant physiology/Proteomics** |  |
| 9.00-11:00 | High Throughput Water Relations & Hormone Measurements**, Ian Dodd** (Lancaster University) | Articum 3 |
| 11:00-12:00 | Making sense of “-omics” data for AI, **Antoine Harfouche** (UNITUS) | Articum 3 |
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| **Afternoon** |  |  |
| 13:00-15:00 | Proximal sensing with lab and Biotron visit **Aakash Chawade** (SLU) | Articum 3/Biotron |
| 15:00-15:30 | Coffee |  |
| 15:30-17:30 | Proteomics for breeding traits, **Svante Resjö** (SLU) | Articum 3 |
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| **Day 4** | **Thursday 23 April** |  |
| **Morning** | **Machine learning and AI/Pre-breeding** |  |
| 9:00-11:00 | AI for plant breeding – AI-driven Genomic Selection, **Dan** **Jacobson** (ORNL)**, Antoine Harfouche** (UNITUS) | Articum 3 |
| 11:00-12:00 | Practical exercise Integrating –omics data **Dan** **Jacobson** (ORNL)**, Antoine Harfouche** (UNITUS), **Erik Alexandersson** (SLU), **Annabel Large (**ORNL/SLU**)** | Articum 3 |
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| **Afternoon** |  |  |
| 13:00-14:00 | Practical exercise **cntd** | Articum 3 |
| 14:00 -15:00 | Breeding for insect resistance and working with pre-breeding **Therese Bengtsson** (SLU) | Articum 3 |
| 15:00- | Time for journal club preparations |  |
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| **Day 5** | **Friday 24 April** |  |
| **Morning** | **Theme: Journal club and Breeding for different climates** |  |
| 9.00-11.00 | Journal club. Open discussion. Final remarks. Course evaluation. Erik Alexandersson, Dan Jacobson, Antoine Harfouche | Group rooms in Articum |
| 11:00-12:00 | Climatypes and microbiomes, **Dan** **Jacobson** (ORNL)**, Antoine Harfouche** (UNITUS) | Articum 3 |
| 12:00 | Lunch |  |
| **Afternoon** |  |  |
| 13:00-14:30 | Climatypes and microbiomes, Dan Jacobson (ORNL), Antoine Harfouche (UNITUS) | Articum 3 |
| 14:30-15:00 | Final remarks. Course evaluation. Erik Alexandersson |  |