

## IPPS 2019 Program

<b>Date</b>	<b>Time</b>	<b>Themes</b>	<b>Confirmed Speakers</b>
Day 1 10.22	9:00-12:00	IPPN Assembly	
	14:00-15:30	Root Phenotyping	<ul style="list-style-type: none"> <li>- Larry York: <i>Update on root phenotyping</i></li> <li>- Peter Pietrzyk: <i>An algorithm to measure root hair response to abiotic stresses in microscopy images</i></li> <li>- Patompong Saengwilai: <i>Cassava root phenotyping and its application in phytoremediation technology</i></li> <li>- Phanchita Vejchasarn: <i>Rhizo-Rice: a novel ideotype for deeper roots and improved drought tolerance</i></li> </ul>
	15:45-16:30	Forest Phenotyping	<ul style="list-style-type: none"> <li>- Heidi Dungey: <i>An introduction to forest phenotyping</i></li> <li>- Nicholas Coops: <i>Use of Advanced Remote Sensing Tools for Phenotyping Evaluation</i></li> <li>- Maxime Bombrun: <i>Forest Phenotyping assisted by machine learning</i></li> </ul>
	14:00-21:00	Registration	
Day 2 10.23	9:00-10:00	Opening	
	10:00-10:30	Group Picture & Coffee break	
	10:30-11:15	Key Lecture 1	Weixing Cao: <i>Phenotyping Field Crops for Assessment of Growth Status</i>
	11:15-12:00	Key Lecture 2	Christopher McCool: <i>Robotics and Vision for Precision Agriculture</i>
	12:00-14:00	Lunch and Break	
	14:00-15:30	New sensor technology	<ul style="list-style-type: none"> <li>- Dagmar van Duschoten: <i>Quantification of temperospatial root water uptake by means of a very precise soil water profiler</i></li> <li>- Raul Lopez-Lozano: <i>A physically-based model to exploit UAV radiometric observations under heterogeneous illumination conditions</i></li> <li>- Joelle Claussen: <i>Wheat phenotyping using X-ray technology and the effect of X-ray radiation during flowering time</i></li> <li>- Morten Lillemo: <i>Virtual phenomics - use of robots and drones in combination with genomics accelerate genetic gains in wheat breeding</i></li> </ul>
	15:30-16:00	Coffee break	
	16:00-17:30	Affordable Phenotyping	<ul style="list-style-type: none"> <li>- Rick van de Zedde: <i>Automation and robotics for high-throughput phenotyping and precision horticulture</i></li> <li>- Larry York: <i>Functional phenomics of crop physiology using affordable and open source phenotyping platforms</i></li> </ul>

			<ul style="list-style-type: none"> <li>- Linyuan Li: <i>An Integrated Solution for High-throughput Estimation of Canopy Cover in Crop and Forest Fields Using UAV RGB imagery</i></li> <li>- Honghong Chai: <i>Revealing the relationship between biomass, sugar content and image-based phenotyping in beetroot</i></li> </ul>
	17:30-18:30	Industry session	Penal Discussion (Host: Bettina Berger): Demands from Industry to Academia and vice versa Guests: <ul style="list-style-type: none"> <li>- Bas van Erdt (Phenokey)</li> <li>- Christoph Bauer (KWS)</li> <li>- David Han (Phenotrait)</li> </ul> Open Networking
Day 3 10.24	8:30-10:00	Image analysis	<ul style="list-style-type: none"> <li>- Stefan Gerth: <i>Improving Cassava root segmentation using AI</i></li> <li>- Yosuke Toda: <i>A unified framework for image-based plant phenotyping under controlled growth environment: From image acquisition to phenotype</i></li> <li>- Robail Yasrab: <i>RootNav 2.0: Machine Learning based Automatic Plant Phenotyping</i></li> <li>- Etienne David: <i>Is Bigger Always Better to train deep learning models for high throughput phenotyping</i></li> </ul>
	10:00-10:30	Coffee break	
	10:30-12:00	Data Management	<ul style="list-style-type: none"> <li>- Pascal Neveu: <i>Implementation of FAIR Data Principles in Plant Phenomics</i></li> <li>- Gamal El Masry: <i>High-Throughput Phenotyping of Cowpea Seeds Using Multispectral imaging</i></li> <li>- Stijn Dhondt: <i>Unlocking the potential of plant phenotyping data using PIPPA</i></li> <li>- Qinghan Dong: <i>MAPEO: a drone based phenotyping platform for plant breeders</i></li> </ul>
	12:00-14:00	Lunch and break	
	14:00-15:30	Modeling	<ul style="list-style-type: none"> <li>- Tao Cheng: <i>Crop Nitrogen Phenotyping from Leaves to Grains</i></li> <li>- Shogo Nagano: <i>Prediction of lettuce fresh weight using optical flow and machine learning in a closed-type plant factory</i></li> <li>- Richard Poiré: <i>Deep learning approaches to evaluate morphological and physiological parameters in model plants &amp; wheat</i></li> <li>- Shouyang Liu: <i>High-throughput phenotyping wheat canopy light interception in the field using multi-directional RGB imagery</i></li> </ul>
	15:30-17:30	Coffee break and poster session Young Talent Awards	
	18:30-21:00	Conference Dinner	

Day 4 10.25	8:30-9:15	Key lecture 3	Malcolm Hawkesford: <i>Developing advanced field phenotyping technology for wheat crop improvement</i>
	9:15-10:45	Utilization of genetic resources	<ul style="list-style-type: none"> <li>- Kioumars Ghamkhar: <i>Phenomics for the improvement and selection of forage genetic resources</i></li> <li>- Carl-Otto Ottosen: <i>Phenotyping for stress tolerance in spring wheat</i></li> <li>- Eric Alexandersson: <i>NordPlant - a new climate and plant phenomics university hub for sustainable agriculture and forest production in future Nordic climates</i></li> <li>- Marian Brestic: <i>Phenotyping of wheat genebank accessions using RGB and hyperspectral data</i></li> </ul>
	10:45-11:00	Coffee break	
	11:00-12:30	Yield Improvement	<ul style="list-style-type: none"> <li>- Francois Tardieu: <i>From phenomics to yield improvement in a changing climate: a trait-based probabilistic approach</i></li> <li>- Scott Chapman: <i>Combining modelling and field phenomics to predict biomass of bioenergy and grain sorghum</i></li> <li>- Barbara George-Jaeggli: <i>High-throughput phenotyping of canopy radiation use efficiency and its component traits</i></li> <li>- Bruno Pollet: <i>High-throughput phenotyping of canopy radiation use efficiency and its component traits</i></li> </ul>
	12:30-14:00	Lunch and break	
	14:00-15:30	Biotic stress resistance	<ul style="list-style-type: none"> <li>- Stephen Rolfe: <i>Phenotyping of quantitative disease resistance</i></li> <li>- Ethan Stewart: <i>The application of a deep learning approach for quantitative disease phenotyping in UAV images</i></li> <li>- Thomas Roitsch: <i>Combination of high-throughput multispectral and deep cell physiological phenotyping of barley resistances against fungal pathogens in controlled environments</i></li> <li>- Onno Muller: <i>Quantifying biotic stress in the field by photosynthetic phenotyping</i></li> </ul>
	15:30-16:00	Coffee break	
	16:00-17:30	Abiotic stress tolerance	<ul style="list-style-type: none"> <li>- Bettina Berger: <i>High-throughput phenotyping for abiotic stress tolerance in a controlled environment – lessons learned over the past 10 years</i></li> <li>- Keren Moshelion: <i>Functional Phenotyping Platform for Evaluating Yield-Related Quantitative Traits in a Dynamic Environment</i></li> <li>- Sudhir Kumar: <i>High-throughput Phenotyping of wheat for water use efficiency-based donor identification</i></li> <li>- Marc Janin: <i>Assessing wheat competitiveness traits from high-throughput field observations of the borders of microplots</i></li> </ul>
	17:30-18:00	Awarding & Closing ceremony	
	Day 5 10.26	8:30-9:30	Leaving for Baima
9:40-10:00		Tree Planting	
10:00-11:30		Field visit	

	12:00-13:00	Lunch and departure
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**Speaker Information:**

- The screen ratio is 16:9
- Regular session talks are 15mins +5mins discussion
- Keynote talks are 25mins +5mins discussion
- Key Lecture talks are 45mins