IIRB SEMINAR 2019

'Sensors and digital technologies in sugar beet production'

17th December 2019

Forschungszentrum Jülich, Wilhelm-Johnen-Straße, 52428 Jülich (D)

Programme

8.00 am	Registration at FZ visitor's center and registration seminar
8.30 am	Welcome and introduction to the seminar (Ronald Euben, IRBAB)

Session 1: Innovative technologies for breeding and cultivation

8.40 am	Non-invasive phenotyping: deep, high-throughput and field technologies and networks (Ulrich Schurr, FZ Jülich, D)
9.00 am	Methods of field-based crop phenotyping and their application in sugar beet (Achim Walter, ETH Zürich, CH)
9.20 am	Sugar beet crop state estimation from UAV observations (Frédéric Baret, Sylvain Jay, INRA, F)
9.40 am	Phenotyping of sugar beet seedling development / Assessment of field emergence in sugar beets with robots (Antje Wolff, Strube, D)

10.00-10.30 am Coffee break and exhibition

Session 2: Crop management and plant protection

10.30 am	The challenge of sensing plant diseases in variety trials and for decision making in crop management (Stefan Paulus, IfZ, D)
10.50 am	Perspectives for an implementation of robots in weed control – an overview (Bo J.M. Secher, Nordic Sugar A/S, DK)
11.10 am	Precision farming in practice (Jacob van den Borne, farmer, NL)
11.30 am	Visit of facilities at FZ Jülich
1.00 pm	Lunch and exhibition

Session 3: Precision harvesting and quality assessment

2.30 pm	SMART BEET – development of an electronic "SmartHarvestSystem" for a sugar beet harvester (Ulrike Wilczek, Univ. Kassel/Witzenhausen, D)
2.50 pm	The application of computer image analysis methods to assess the quality of sugar beet yield (Natalia Mioduszewska, Poznań University of Life Sciences, PL)
3.10 pm	Sample preparation and presentation is crucial for application of NIRS in quality analysis of sugar beet (Elke Hilscher, KWS SAAT SE & Co. KGaA, D)
3.30 pm	Discussion and outlook (Anne-Katrin Mahlein, IfZ)
4.00 pm	End of meeting

Exhibitors

Argus monitoring (Alsdorf, D)	Service for a modern agriculture
Escarda technologies, Berlin, D)	Laser-based weeding
LemnaTec GmbH (Aachen, D)	Digital phenotyping, seed testing and lab equipment
Octinion (Leuven, B)	Mechatronic product development applied to biological material
Phenospex (Heerlen, NL)	Smart plant analysis
xarvio™ (Münster, D)	Digital farming solutions
VISTA (München, D)	Remote sensing and modelling for hydrology, agriculture and environment
Zasso (Aachen, D)	Advanced electrophysics for weed control
AgriCircle (Rapperswil, CH)	Digital modelling and data processing
Agvolution (Göttingen, D)	Radio sensor network and satellite data processing
HAIP Solutions (Hannover, D)	Early detection of plant diseases in the field
Phenorob (Bonn, D)	Robotics and phenotyping for sustainable crop production
Mascor (Aachen, D)	Mobile autonomous systems and cognitive robotics
KWS SAAT SE & Co. KGaA (D)	Near-infrared spectroscopy
SESVanderHave (B)	Near-infrared spectroscopy
Strube D&S GmbH (D)	Near-infrared spectroscopy