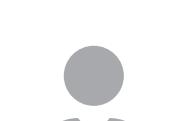


PLENARY ROOM

9:00 – 11:00 Session 3 – Topic 03/1: Precision Viticulture – Chair: B. Tisseyre

9:00 – 9:20 Characterising the within-field variability of vine water status with simple visual observations of shoot growth
L. Pichon, O. Bopp, B. Tisseyre 

9:20 – 9:40 Validation of a commercial optoelectronics device for grape quality analysis
M. Sozzi, A. Cogato, D. Boscaro, A. Kayad, D. Tomasi, F. Marinello 

9:40 – 10:00 Is it relevant to account for grapevine phenology in time series of satellite images?
C. Laurent, E. Fornieles Lopez, F. Rançon, T. Scholasch, A. Metay, J. Taylor, B. Tisseyre 

10:00 – 10:20 Assessing number of berries in grapevines using linear methods and machine learning
F. Palacios, P. Melo-Pinto, M. P. Diago, R. Iñiguez, J. Tardaguila 

10:20 – 10:40 Fine-tuning and testing of a pre-trained DNN for detecting pruning regions of spur-pruned grapevines
P. Guadagna, T. Frioni, F. Chen, A. Incerti Delmonte, T. Teng, M. I. Ferreira Fernandes, A. Scaldaferrri, C. Semini, S. Poni, M. Gatti 

10:40 – 11:00 Relationship between foliar composition and the vigor of vineyards in D. O. Rías Baixas-Spain
M. Rodríguez-Fernández, M. Fandiño, X.P. González, J. J. Cancela 

11:00 – 11:30 Coffee break

11:30 – 13:00 Keynote – In plenary Chair: G. Milics

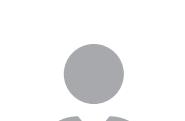
11:30 – 12:00 Dimitros Moshou, Professor, Aristotle University of Thessaloniki - Deep Learning in Agriculture 

12:00 – 12:30 Presentation of Bruno Tisseyre and James Taylor 

12:30 – 13:00 Simon Pearson, Director of the Lincoln Institute for Agri-Food Technology, University of Lincoln - Engineering the future of Agri-robotics 

13:00 – 14:00 Lunch

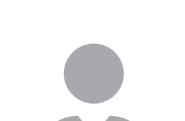
14:00 – 16:00 Session 4 – Topic 03/2: Precision Viticulture - Chair: I. Matecny

14:00 – 14:20 Grape yield spatial variability assessment using YOLOv4 object detection algorithm
M. Sozzi, S. Cantalamessa, A. Cogato, A. Kayad, F. Marinello 

14:20 – 14:40 Are all NDVI maps created equal? – Comparing vineyard NDVI data from Proximal and Remote Sensing
A. Kasimati, A. Kalogrias, V. Psiroukis, K. Grivakis, J. A. Taylor, S. Fountas 

14:40 – 15:00 Testing performance of UAV-based hyperspectral imagery in viticulture
A. Matese, A. Berton, S. F. Di Gennaro, M. Gatti, C. Squeri, S. Poni 

15:00 – 15:20 Rapid and non-destructive phenolic maturity assessment in vineyard from RGB imagery acquired by UAV platform
S. F. Di Gennaro, G. Agati, A. Berton, L. Cavigli, L. Fabbrini, R. Perria, P. Storchi, L. Tuccio, A. Zombardo, A. Matese 

15:20 – 15:40 Monitoring of temporal and spatial variability of climate parameters and their impact on vineyard management
V. Oršulová, A. Šupčík 

16:00 – 16:30 Coffee break

TERRA ROOM

9:00 – 11:00 Session 3 – Topic 18, 24: Economics of Precision Agriculture, Decision support for Precision Agriculture – Chair: A. Nyéki

9:00 – 9:20	Predicting the probability that higher profits could be achieved by adopting PA <u>A. J. Murdoch</u> , L. Todman, S. Mahmood, J. Petri, T. Engel, M. Karampoiki, D. Paraforos, S. Antognelli, D. Guidotti, E. Ranieri	
9:20 – 9:40	Decision support in the open service platform Akkerweb FarmMaps for precision agriculture <u>C. Kempenaar</u> , T. H. Been, F. K. Van Evert, I. E. Hoving, G. J. T. Kessel, W. Dantuma, J. A. Booij, L. P. G. Molendijk, F. D. Sijbrandij, K. Van Boheemen	
9:40 – 10:00	Cultivar coefficient estimation with multiple in-season LAI and biomass observations for CERES-Wheat - Comparison of LAI time-series trend with NDVI <u>E. Memic</u> , G. Röll, D. Reiser, S. Graeff-Hönninger	
10:00 – 10:20	Yield maps for everyone - scaling drone models to satellite-based decision support <u>M. Söderström</u> , K. Piikki, H. Stadig	
10:20 – 10:40	A digital twin for arable and dairy farming <u>F. K. Van Evert</u> , H. N. C. Berghuijs, I. E. Hoving, A. J. W. De Wit, T. H. Been	
10:40 – 11:00	In-season Calibration of CERES-Rice Model using Proximal Active Canopy Sensing H. Zha, Y. Miao, J. Lu, <u>K. Kusnierek</u> , W. Batchelor	

11:00 – 11:30 Coffee break

11:30 – 13:00 Keynote Speeches in Plenary Room

13:00 – 14:00 Lunch

14:00 – 16:00 Session 4 – Topic 17: Robotics, Guidance and Automation – Chair: V. Vona

14:00 – 14:20	Weedelec: a robotic research platform for individual weed detection and selective electrical weeding <u>F. Abdelghafour</u> , F. Rançon, S. Liu, J. Champ, V. De Rudnicki, C. Guizard, H. Goëau, C. Claude, A. Joly, P. Bonnet, G. Rabaté	
14:20 – 14:40	The Impact of Regulation on Autonomous Crop Equipment in Europe J. Lowenberg-DeBoer, K. Behrendt, M. Canavari, A. Gabriel, I. Huang, S. Kopfinger, R. Lenain, A. Meyer-Aurich, G. Milics, K. Oluseyi Olagunju, S. M. Pedersen, D. Rose, <u>O. Spykman</u> , B. Tisseyre, I. Zdráhal	
14:40 – 15:00	Volume and leaf area calculation of cabbage with a neural network based instance segmentation <u>N. Lüling</u> , D. Reiser, H. W. Griepentrog	
15:00 – 15:20	Deep-Learning-Based Detector in-field tomatoes using a terrestrial mobile platform O. E. Apolo-Apolo, D. Andujar-Sánchez, D. Reiser, <u>M. Pérez-Ruiz</u> , J. Martínez-Guanter	
15:20 – 15:40	RoboSpray SMASH: Proof of concept modular robot platform for crop protection in viticulture <u>D. Sarri</u> , R. Lisci, A. Pagliai, S. Lombardo, M. Vieri, M. Pencelli, M. Niccolini, A. Argiolas, A. Cappalunga, L. Bartoli, N. Doveri, F. Tognetti	
15:40 – 16:00	Approach for modeling single branches of orchard trees with 3D point clouds <u>J. Straub</u> , D. Reiser, H. W. Griepentrog	

16:00 – 16:30 Coffee break

AQUA ROOM

9:00 – 11:00 Session 3 – Topic 07: Satellite-based applications for Precision Agriculture – Chair: M. Melzer

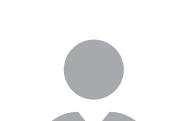
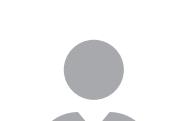
9:00 – 9:20	Developing a Remote Sensing and Calibration Strip-based In-season Nitrogen Management Strategy for Corn C. Cummings, <u>Y. Miao</u> , S. Kang, K. Stueve	
9:20 – 9:40	Estimating Tomatoes Water Consumption, Leaf Area Index, and Height Using Sentinel-2 and VENμS Images G. Kaplan, L. Fine, V. Lukyanov, V. S. Manivasagam, J. Tanny, <u>O. Rozenstein</u>	
9:40 – 10:00	Wheat Yield Prediction Using Fused CubeSat and Sentinel-2 Imagery <u>Y. Sadeh</u> , X. Zhu, D. Dunkerley, J. P. Walker, K. Chenu	
10:00 – 10:20	NDVI from satellite images to estimate LiDAR-derived geometric and structural parameters in super-intensive almond orchards J.A. Martínez-Casasnovas, J. Llorens, <u>L. Sandonís-Pozo</u> , A. Escolà, J. Arnó	
10:20 – 10:40	Potential of temporal series of Sentinel-2 images to define zones of vine water restriction <u>Lopez Fornieles</u> , E.; Tisseyre, B.; Devaux, N.; Pichon, L.; Brunel, G.; Rancon, F.	
10:40 – 11:00	Is it possible to delineate wheat yield zones using NDVI index from Sentinel-2 in early phenological stages? <u>A. Uribeetxebarria</u> , A. Castellon, M. Aranguren, A. Aizpurua	

11:00 – 11:30 Coffee break

11:30 – 13:00 Keynote Speeches in Plenary Room

13:00 – 14:00 Lunch

14:00 – 16:00 Session 4 – Topic 25+23+10: Data Mining, Software and mobile Apps, Embedded sensing systems – Chair: J. Taylor

14:00 – 14:20	A conceptual framework for telemetry data use in agriculture <u>M. Medici</u> , M. Mattetti, M. Canavari	
14:20 – 14:40	Estimating Kc on a Plot Level Using Remote Sensing and Artificial Intelligence <u>R. Pelta</u> , O. Beeri, T. Shilo, S. Mey-Tal	
14:40 – 15:00	Blueberry App. A tool for irrigation scheduling on blueberries for the southeastern U. S. <u>V. Liakos</u> , E. Smith, J. Andreis, G. Vellidis, D. Pavlou, A. Orfanou, W. Porter, T. Onker, A. Rabia	
15:00 – 15:20	Functions of commercial Farm Management Information Systems – a demand-oriented analysis in Bavaria <u>M. Melzer</u> , M. Gandorfer	
15:20 – 15:40	The Timing of Smartphone Adoption in German Agriculture <u>M. Michels</u> , O. Mußhoff	
15:40 – 16:00	A human-borne sensor device to foster participatory sensing in precision orchard management <u>K. Tamminga</u> , S. De Jong, J. Valente	

16:00 – 16:30 Coffee break

SOLAR ROOM

9:00 – 11:00 Session 3 – Topic 05/2: Proximal and Remote Sensing of Soil and Crop – Chair: V. Vona

9:00 – 9:20	Robust Vegetation Segmentation for Image-based Field Survey <u>Y. Moriuchi</u> , K. Nakamura, H. Mihara, T. Sasaki, A. Ito, E. Itakura, H. Mori, J. Murayama	
9:20 – 9:40	VIs-image segmentation method for the estimation of agronomic traits in durum- and winter-wheat cultivars <u>S. Marino</u> , U. Ahmad and A. Alvino	
9:40 – 10:00	Testing the potential of a new low cost multispectral sensor for decision support in agriculture <u>S. Moinard</u> , G. Brunel, A. Ducanchez, T. Crestey, B. Tisseyre	
10:00 – 10:20	A Sensory System for Adaptive Distribution of Plant Protection Agents P. Lepej, M. Lakota, <u>J. Rakun</u>	
10:20 – 10:40	Multi-beam LiDAR-derived data analysis for optimal canopy 3D monitoring in super-intensive almond <u>J. Llorens</u> , A. Alsina, J. Arnó, J. A. Martínez-Casasnovas, A. Escolà	
10:40 – 11:00	Distortion and mosaicking of close-up multi-spectral images A. M. Krus, <u>C. Valero</u> , J. J. Ramirez, C. Cruz Ulloa, A. Barrientos, J. Del Cerro	
11:00 – 11:30	Coffee break	

11:30 – 13:00 Keynote Speeches in Plenary Room

13:00 – 14:00 Lunch

14:00 – 16:00 Session 4 – Topic 05/3: Proximal and Remote Sensing of Soil and Crop – Chair: J. Llorens

14:00 – 14:20	Improving In-season Nitrogen Status Diagnosis using an Active Canopy sensor and ancillary data Machine Learning <u>X. Wang</u> , Y. Miao, R. Dong, Z. Chen, H. Zha, K. Kusnerek	
14:20 – 14:40	Cotton N-uptake estimation for in-season fertilizer management based on digital image analysis <u>G. Portz</u> , T. R. Tavares, S. Reusch, J. Jasper, J. P. Molin	
14:40 – 15:00	The Use of Remote Sensing for Variable Rate Irrigation in Cotton <u>L. N. Lacerda</u> , J. Snider, Y. Cohen, V. Liakos, G. Vellidis	
15:00 – 15:20	Remote sensing estimates of crop water use for improved irrigation water management <u>R. Madugundu</u> , K. A. Al-Gaadi, E. Tola	
15:20 – 15:40	Detecting water status of wheat canopy using spectral reflectance in the 400-900 nm range <u>K. Kusnerek</u> , A. Korsaeth	
16:00 – 16:30	Coffee break	