



AGENG CONFERENCE 2018

New engineering concepts for a valued agriculture

8 – 12 July 2018, Wageningen, the Netherlands

Conference Agenda

Session Overview

Date: Tuesday, 10/Jul/2018

8:00am - 5:00pm									
Registration Tuesday: Registration AgEng2018 conference Location: Orion Ground floor									
8:30am - 10:00am									
Session 21: Topic 7 Animal production technology - Emissions 1 Location: Orion Room C2050 Chair: Dr. Marjolein Derks 8:30am - 8:50am Ammonia Emissions from Dairy Barns in Finland <u>Maarit Hellstedt</u> , Sari Luostarinen, Juha Gronroos, Hannu Haapala 8:50am - 9:10am Effect Of Grazing On Ammonia Emission From Dairy Housing With Slatted Floor <u>Hendrik Jan C. Van Dooren</u> , Nico W.M. Ogink, Johan W. Van Riel, Julio Mosquera 9:10am - 9:30am Elevated Feeding Stalls To Reduce Soiled Area In Dairy Housing: First Results From Comparable Ammonia Emission Measurements <u>Sabine Schrade</u> , Kerstin Zeyer, Joachim Mohn, Frederik Hildebrandt, Michael Zaehner 9:30am - 9:50am A Novel Method With Improved Accuracy To Determine The Reduction Potential For	Session 22: Topic 7 Animal production technology - On farm technology 1 Location: Orion Room C2051 Chair: Bert Ipema 8:30am - 8:50am Test of UHF ear tags for piglets and growing-finishing pigs on an optimized test bench. <u>Adrian Foerschner</u> , Felix Adrion, Eva Gallmann 8:50am - 9:10am Measuring the walking distance of growing-finishing pigs with UHF-RFID <u>Felix Adrion</u> , Anita Kapun, Monika Tomalla, Matthias Reger, Eva Gallmann 9:10am - 9:30am The Use Of Electronic Identification In Fattening Pigs Combined With Slaughterhouse Data To Improve Farm Management <u>Rudi de Mol</u> , Pieter Hogewerf, Bennie van der Fels, Jaap de Wit, Mark van den Eijnden 9:30am - 9:50am Experimental Study on Feeding Accuracy of The Projection Type of Quantative Feeding Machine in RAS <u>Fengdeng Zhang</u>	Session 23: Topic 4 Robotic systems in fruit orchards and vineyards: Location: Orion Room C2005 Chair: Prof. Francisco Rovira-Mas 8:30am - 8:50am Visual Feedback for Flight Control of an Autonomous UAV Operating Within Vineyard Rows <u>Raphael Linker</u> 8:50am - 9:10am Fruit Detection Using Mobile Terrestrial Laser Scanning <u>Jordi Gené-Mola</u> , Eduard Gregorio, Javier Guevara, Fernando Auat, Alexandre Escolà, Josep-Ramon Morros, Joan R. Rosell-Polo 9:10am - 9:30am Vibration Analysis and Canopy Adaptation of Citrus Tree for an Efficient Harvesting with Canopy Shaker Technology <u>Sergio Castro-García</u> , Rafael R. Sola-Guirado, Gregorio L. Blanco-Roldán, Antonio J. Serrano, Juan José Garcés Iniesta, Emilio Soria Olivas, Jesus A. Gil-Ribes 9:30am - 9:50am A Study on Pick-Cycle-Times of Robotic Multi-Arm Tree Fruit Harvesters <u>Rajkishan Arikapudi</u> , <u>Stavros</u>	Session 24: Topic 4 Robotic systems for plant observations Location: Orion Room C2006 Chair: Jan Kamp 8:30am - 8:50am Identification of Reflected Spectral Related to Plant Circadian Rhythm Using Maximal Information Coefficient <u>Shogo Nagano</u> , Akito Sammyo, Hirokazu Fukuda 8:50am - 9:10am Flower and Bud Detection of Gerbera L. using Faster Region-Based Convolutional Networks. <u>Jos Ruizendaal</u> , Ruud Barth, Jos Balendonck 9:10am - 9:30am Monitoring Crop Status Using Hyperspectral Imaging <u>Gerrit Polder</u> , Anja Dieleman, Esther Meinen, Kees Weerheim 9:30am - 9:50am Comparison Of Different Approaches In Estimating The Leaf Biomass In Romaine Lettuce By 3D Imaging <u>Emanuele Tona</u> , Aldo Calcante, Alberto Zani, Roberto Oberti 9:50am - 9:52am A 3D low-cost photogrammetry method for weed plants modelling <u>Dionisio Andujar</u> , Mikel Calle, César Fernández-Quintanilla,	Session 25: Topic 1 New farming systems and concepts Location: Orion Room C1005 Chair: Prof. Thomas Banhazi 8:30am - 8:50am Towards further refinement of Integrated Pest Management (IPM) strategies: integration of landscape of fear (LOF) <u>Inge Milou Krijger</u> , Steven R. Belmain, Grant R. Singleton, Peter W. G. Groot Koerkamp, Bastiaan G. Meerburg 8:50am - 9:10am Predictive Systems Model Simulating The Development Of Beehives And Honeybee Population (Apis Mellifera) In Professional Apicultures <u>Jochen Georg Wiecha</u> , Sascha Wörz, Heinz Bernhardt 9:10am - 9:30am A Methodological Framework To Incorporate Animal Capacities In A Structured Design Approach <u>Ellen Van Weeghel</u> , Bram Bos, Peter Groot Koerkamp 9:30am - 9:50am Industrialization and Agricultural Mechanization in Africa <u>Lawrence Gumbe</u>	Session 26: Topic 2 New farming management systems - IoF 1 Location: Orion Room C2035 Chair: Dr. Cor Verdouw 8:30am - 8:50am Internet of Things Experiments in IoF2020 Dairy Trial <u>Kees Lokhorst</u> , Ivan Andonovic, Patrick Honcoop 8:50am - 9:10am Herdsman: Fertility and animal welfare monitoring based on multiple on-farm data streams <u>Craig Michie</u> , Christos Tachtatziz, Ivan Andonovic, Andrew Hamilton, <u>Chris Davison</u> 9:10am - 9:30am Determining Valuable Variables To Design An Early Warning System For Individual Fattening Pigs, A Pilot Study. <u>Petra Briene</u> , Chari Vandenbussche, Cool Simon, Van De Gucht Tim, De Geest Pieterjan, Millet Sam, Vangeyete Jarissa 9:30am - 9:50am Meat Transparency and Traceability in the IoF2020 Project with EPCIS <u>Ayalew Kassahun</u> , Georg	Session 27: Topic 8 Plant production technologies - Spraying 1 Location: Orion Room C2030 Chair: Dr. Ard Nieuwenhuizen 8:30am - 8:50am Multiple Row Orchard Spraying Improves Spray Deposition And Reduces Spray Drift <u>Jan van de Zande</u> , Marcel Wenneker, Jean-Marie Michielsen, Hein Stallinga, Pleun van Velde, Pieter van Dalfsen 8:50am - 9:10am Laser-guided Variable-rate Pesticide Spray Technology for Specialty Crop Production <u>Heping Zhu</u> 9:10am - 9:30am Adapting the PPP Spraying Machinery to the European Environmental Guidelines: Field Testing of Newly-developed Air-assisted Sprayers for Traditional Olive Canopies <u>Antonio Miranda-Fuentes</u> , Alberto Godoy-Nieto, Antonio Rodríguez-Lizana, Juan L. Gamarra-Diezma, Gregorio L. Blanco-Roldán, Emilio J. González-Sánchez, Jesús A. Gil-Ribes 9:30am - 9:50am Fuel Consumption Analysis Of Real-World Measurements <u>Sprayer Boom</u>	Session 28: Topic 5 Energy use and efficiency of tractors Location: Orion Room C1040 Chair: Dr. Thomas Bartzanas 8:30am - 8:50am Tractor Driveline Efficiency Evaluation Taking into account Power Lost in Slippage. <u>Maurizio Cutini</u> , Massimo Brambilla, Carlo Bisaglia 8:50am - 9:10am Preliminary Study On Traction Efficiency Of An Agricultural Tractor Equipped With An Extendable Ballast Holder <u>Massimiliano Varani</u> , Michele Mattetti, Giovanni Molari 9:10am - 9:30am Agricultural Tire Energy Efficiency test method and dedicated equipment to compare and improve fuel consumption and traction of agricultural tires under real field conditions <u>Kornel Szalay</u> , Laszlo Kovacs, Gabor Bercesi, Istvan Oldal, Emmanuel Piron, Julien Charlat, Thierry Joly, Clement Poncet, Florence Tran 9:30am - 9:50am Fuel Consumption Analysis Of Real-World Measurements <u>Sprayer Boom</u>	Session 29: Topic 11 Nutrient management and waste treatment 1 Location: Orion Room C1032 Chair: Dr. Karin Groenestein 8:30am - 8:50am Recycling Nutrients In A Circular Economy <u>Piet Derikx</u> , Pieter de Wolf, Oene Oenema, Krijn Poppe, Theun Vellinga, Koos Verloop, Jan Weijma, Wyno Zwanenburg 8:50am - 9:10am The Best Application for Rice Husk toward Agricultural Sustainability <u>Mohammad Sadegh Allahyari</u> , Hadi Yaghoubi, Saeed Firouzi, Soroush Marzban 9:10am - 9:30am Development Of An Empirical Model To Prepare Nutrient Solutions With The Use Of Controlled Release Fertilizers <u>Maria Zografou</u> , Christos Lykas 9:30am - 9:32am Annual Legume Cover Crops Enhance The Sustainability of Rainfed Olive Orchards:	

	<p>Ammonia Of Innovative Dairy Cow House Floor Systems <u>Gert-Jan Monteny</u></p>		<p><u>Vougioukas</u> 9:50am - 9:52am Estimation of Vine Shoot Morphology and Volume Based on Computer Vision and Image Processing <u>Barna Keresztes</u>, Jean-Pierre Da Costa, Christian Germain 9:52am - 9:54am Fast Method For The Weeds' Impact Evaluation On A Field Crop Using Smartphones. Elio Romano, Carlo Bisaglia, Massimo Palumbo, Nino Virzi, Fabiola Sciacca, Sergio Saia, Ivano Pecorella, Pasquale De Vita</p>	<p>Ángela Ribeiro, Jose Dorado 9:52am - 9:54am Evaluation Of The Potential For Automatic Herbicide In Wheat Crops <u>Mihai Gidea</u>, Catalin Mircea Constantinescu, Dragos Manea, Alexandru Clorita, Laura Mihaela Iosub</p>		<p>Schwering, Nicolas Becker, Sabine Kläser, Tim Bartram, Ioannis Athanasiadis 9:50am - 10:10am Akkerweb, A New Platform For Use of Spatial And Temporal Data In Precision Farming. Corné Kempenaar, <u>Thomas Been</u>, Frits van Evert, Johan Booi, Jean-Marie Michielsen, Idse Hoving, Geert Kessel, Bert Philipsen, Henk Janssen</p>	<p>Optimization For Bed-grown Crops <u>Henk Jan Holterman</u>, Jan C Van de Zande, Pleun Van Velde</p>	<p><u>Michele Mattetti</u>, Riccardo Molinari, Eugenio Sereni, Giovanni Molari</p>	<p>From Leaf Ionome to Tree Physiology <u>Carlos M. Correia</u>, Sandra Martins, Ermelinda Silva, Cátia Brito, Luís Pinto, José Moutinho-Pereira, Margarida Arrobas, Manuel Ângelo Rodrigues, Alexandre Gonçalves 9:32am - 9:34am Determination of Ca2+ Absorption Rate of Young Rose Plants Grown in Hydroponic System Apostolos Zantzos, <u>Maria Zografou</u>, Christos Lykas 9:34am - 9:36am " Influence Of Forced Aeration Rates On Maturation Of Composting Poultry Manure And Wood Shavings In Closed Reactor System" Waqas Qasim, Byeong Eun Moon, Frank Gyan Okyere, Fawad Khan, Jayanta Kumar Basak, Yong jin Lee, Hyeon Tae Kim</p>
<p>10:00am - 10:30am</p>	<p>Coffee Break 5: Coffee break Tuesday morning Location: <u>Orion Restaurant</u></p>								
<p>10:30am - 12:00pm</p>	<p>Session 31: Topic 7 Animal production technology - Emissions 2 Location: Orion Room C2050 Chair: Dr. Peter Demeyer 10:30am - 10:50am Low Emission Slat Design for Swine Buildings <u>Stéphane Godbout</u>, Francy Alejandra Vanegas Izquierdo, Joahnn H. Palacios Rios, Matthieu Girard, Ariane Lévesque, Alain Rousseau 10:50am - 11:10am</p>	<p>Session 32: Topic 7 Animal production technology - On farm technology 2 Location: Orion Room C2051 Chair: Dr. Jan Harms 10:30am - 10:50am The Effect Of Liner Type On The Teat Load Caused By A Collapsing Liner Using A Pressure-Indicating Film <u>Susanne Demba</u>, Victoria Paul, Christian Ammon, Sandra Rose-Meierhöfer 10:50am - 11:10am Evaluation Of A Robotic Manure Scraper In Dairy</p>	<p>Session 33: Topic 4 Robotic systems for remote sensing in open fields Location: Orion Room C2005 Chair: Dr. Jean-Pierre Chanet 10:30am - 10:50am Robust Online Soil Roughness Measurement Using Stereo Vision <u>Peter Riegler-Nurscher</u>, Heinrich Prankl, Gerhard Moitzi, Helmut Wagentristl 10:50am - 11:10am Sustainable Management and Yield</p>	<p>Session 34: Topic 4 Robotic systems - Various topics Location: Orion Room C2006 Chair: Emmanuel Hugo 10:30am - 10:50am Structured Design of a Novel End-effector for a Bush Trimming Robot <u>Bart A.J. van Tuijl</u>, Toon P.M. Tielen, Angelo Mencarelli, Jochen Hemming 10:50am - 11:10am Vision-based Robotic Bush Trimming Evaluation Dejan Kaljaca, Angelo Mencarelli, Eldert</p>	<p>Session 35: Topic 1 New farming concepts in arable farming Location: Orion Room C1005 Chair: Prof. Pierluigi Febo 10:30am - 10:50am Sustainable Sensor-based Tillage <u>Ole Green</u>, Frederik Foldager, Alevtina Evgrafova, Kirkegaard-Nielsen Søren, Dalgaard Tommy, Munkholm Lars Juhl 10:50am - 11:10am Smaragd – development of an innovative</p>	<p>Session 36: Topic 2 New farming management systems - IoF 2 Location: Orion Room C2035 Chair: Dr. Sjaak Wolfert 10:30am - 10:50am IoT Architecture For Digitalization Of Silage Bale Life Cycle Management Khoa Dang, <u>Antti Juntunen</u> 10:50am - 11:10am Internet-based Harvest Fleet Logistic Optimisation <u>Andrés Villa-</u></p>	<p>Session 37: Topic 8 Plant production technologies - Phenotyping weeds and crops Location: Orion Room C2030 Chair: Dr. Gerrit Polder 10:30am - 10:50am Automated Weed Intensity Mapping <u>Kim Steen</u>, Kevin Grooters, Carsten Højlund, Jesper Rasmussen, Rasmus Nyholm Jørgensen, Mads Dyrmmann, Ole Green 10:50am - 11:10am Field Performance Evaluation</p>	<p>Session 38: Topic 5 GHG emissions from milk production and slurry application Location: Orion Room C1040 Chair: Prof. Qiang Zhang 10:30am - 10:50am Title Case: Milk transport costs and carbon emissions of various triggered milk logistic chains Michael Schmid, Dr. Sascha Wörz, Prof. Dr. Heinz Bernhardt, <u>Dr. Omar Hijazi</u> 10:50am - 11:10am Insights In The Carbon</p>	<p>Session 39: Topic 11 Nutrient management and waste treatment 2 Location: Orion Room C1032 Chair: Dr. Adam Dubowzki 10:30am - 10:50am The Spreadwise System For Predicting Spread Patterns Of Centrifugal Fertilizer Spreaders <u>Simon Cool</u>, Jan G. Pieters, Koen C. Mertens, David Nuyttens, Tim Van De Gucht, Jürgen Vangeyte</p>

	<p>Survey Of Air Scrubber Performance At Pig Farms In Practice: Odour And Ammonia Removal Still A Challenge <u>Roland W. Melse</u>, Guus M. Nijeboer, Nico W.M. Ogink</p> <p>11:10am - 11:30am</p> <p>Performance of a New Two-stage Chemical Air Cleaner for Livestock Pit Ventilation Air <u>Anders Peter Stubkjær Adamsen</u>, Simon Wilhelm Yde Granath, Michael Jørgen Hansen, Anders Leegaard Riis</p> <p>11:30am - 11:50am</p> <p>Emission of nitrous acid (HNO₂) and other nitrogen (N) compounds from biotrickling filters treating exhaust air of pig houses <u>Roland W. Melse</u>, Johan P.M. Ploegaert</p> <p>11:50am - 11:52am</p> <p>Ammonia Emission From a Fattening Pig House With Partly Slatted Floor During Warm Thermal Conditions <u>Knut-Håkan Jeppsson</u>, Anne-Charlotte Olsson</p>	<p>Production By Means Of Ethological And Technical Parameters <u>Theresa Leinweber</u>, Sabine Schrade, Eva Gallmann, Michael Zähler</p> <p>11:10am - 11:30am</p> <p>Development Of A Test Stand For The Testing Of Alternative Manure Removal Methods In Slurry Channels <u>Bastian Kolb</u>, Eva Gallmann</p> <p>11:30am - 11:50am</p> <p>Evaluation of novel farrowing systems with possibility for the sow to move – Effects on working time requirement <u>Franz Handler</u>, Emil Blumauer, Birgit Heidinger</p> <p>11:50am - 11:52am</p> <p>Continuous electronic behaviour monitoring of growing-finishing pigs with UHF-RFID <u>Anita Kapun</u>, Felix Adrion, Eva Gallmann</p> <p>11:52am - 11:54am</p> <p>On farm on-line Somatic Cell Count measurements <u>Pieter Hogewerf</u>, Marleen Purmer, Bert Ipema</p>	<p>Monitoring of an Annual Mixture Forage <u>Luis Alcino Conceição</u>, José Rafael da Silva, Rute Santos, Noémia Farinha, Benvindo Maças</p> <p>11:10am - 11:30am</p> <p>Smart Irrigation System for the Sustainable Watering of Urban Lawns José Marin, Sandra Sendra, Lorena Parra, Jaime Lloret, <u>Pedro Vicente Mauri</u>, Alberto Masaguer</p> <p>11:30am - 11:32am</p> <p>Weed and Maize Classification in Early Growth Stages Based on Near-infrared Snapshot Hyperspectral Imagery <u>Junfeng Gao</u>, David Nuytens, Peter Lootens, Yong He, Jan.G Pieters</p> <p>11:32am - 11:34am</p> <p>Towards Automated Field Detection Of Alternaria Solani Using Hyperspectral Imaging <u>Ruben Van De Vijver</u>, Koen Mertens, Kurt Heungens, Ben Somers, David Nuytens, Tom De Swaef, Isabel Roldán-Ruiz, Irene Borra-Serrano, Peter Lootens, Jürgen Vangeyte, Wouter Saeys</p> <p>11:34am - 11:36am</p> <p>Nondestructive Measurement of Soybean Vigor using Short Wave Infrared Spectral Imaging Analysis Insuck Baek, Dewi Kusumaningrum, <u>Byoung-Kwan Cho</u></p>	<p>J. van Henten, Jochen Hemming, Toon P.M. Tielen</p> <p>11:10am - 11:30am</p> <p>Robotti – A Generic Arable Automated Tool Carrier Claes Dühring Jæger, Martin Boel, Jakob Pilegaard Juul, Ole Green, <u>Frederik Foldager</u></p> <p>11:30am - 11:50am</p> <p>Development of an Agricultural Autonomous Platform <u>Pieter-Jan Note</u></p> <p>11:50am - 11:52am</p> <p>On-the-track of Soil-borne Pathogens Using Electronic Noses <u>João Valente</u>, Harold J.G. Meijer, Qijun Jiang, Lammert Kooistra, Gert H.J. Kema</p> <p>11:52am - 11:54am</p> <p>Potential of a LiDAR-based automated system to reconstruct vineyard crops Hugo Moreno, Constantino Valero, Miguel Garrido, Bengochea-Guevara Jose M, <u>Dionisio Andujar</u></p>	<p>farming system in the Netherlands <u>Jan A.L.M. Kamp</u>, H. Schoorlemmer</p> <p>11:10am - 11:30am</p> <p>Explaining the Reflexive Interactive Design (RIO) Method using Intercropping as an Example <u>Marjolein Derks</u>, Peter Groot Koerkamp, Bram Bos</p> <p>11:30am - 11:50am</p> <p>Assessment of the Vegetation Parameters of Almond and Vine Plants for Designing a Compact Tractor Pietro Catania, <u>Antonio Comparetti</u>, Pierluigi Febo, Giuseppe Morello, Santo Orlando, Mariangela Vallone</p> <p>11:52am - 11:54am</p>	<p>Henriksen, Nick Skou-Nielsen, Claus A. Grøn Sørensen, Ole Green, Gareth T.C. Edwards</p> <p>11:10am - 11:30am</p> <p>Fruit 4.0: Towards data-driven fruit production <u>Cor Verdouw</u>, Nico Bondt, Jan Willem Kruize, Peter Frans de Jong, Jan van de Zande</p> <p>11:30am - 11:50am</p> <p>Systems of IoT systems for smart food and farming <u>Cor Verdouw</u>, Jeroen van Grondelle, Robbert Robbemond, Sjaak Wolfert</p> <p>11:50am - 11:52am</p> <p>Farms, Fogs and Clouds: Data open-architecture for optimal crop growth control for IoF2020 project Francisco Rodriguez Diaz, Manuel Berenguel Soria, Jorge Antonio <u>Sanchez Molina</u>, Manuel Muñoz Rodríguez, Cynthia Giagnocavo</p> <p>11:52am - 11:54am</p> <p>Design and Implementation of a Platform Based on IoT-cloud and Image Processing for Hydroponics Applications <u>Chung-Liang Chang</u>, Jun-Yong Tian, Wei-Lun Fu</p>	<p>Method for a Machine Vision Based Intra Row Hoeing Machine <u>Jochen Hemming</u>, Hermen de Jong, Lauwrens Struik, Jasper van Meer, Eldert J. van Henten</p> <p>11:10am - 11:30am</p> <p>Classification of Herbicide Resistant Papaver rhoeas L. and Stellaria media L. Using Spectral Data Robin Mink, Alexander I. Linn, Roland Gerhards, <u>Gerassimos Georgiou Peteinatos</u></p> <p>11:30am - 11:50am</p> <p>Semantic Segmentation of Clover-Grass Images using Images from Commercially Available Drones <u>Dennis Larsen</u>, Kim Arild Steen, Søren Skovsen, Kevin Grooters, Jørgen Eriksen, Rasmus Nyholm Jørgensen, Mads Dyrmann, Ole Green</p> <p>11:50am - 11:52am</p> <p>Development And Assessment Of A True Colour Sensor Array For Real Time Differentiation Between Crop-And Weed Plants. <u>Elisa Maria Schopphoven</u>, Oliver Schmittmann, Peter Schulze Lammers</p>	<p>Footprint Of Raw Milk From 12000 Individual Dutch Dairy Farms <u>Jeroen Hospers</u>, Sanne Dekker, Theun Vellinga, Rogier Schulte</p> <p>11:10am - 11:30am</p> <p>Title case: Economic comparison and carbon emissions of payload optimized milk logistic chains Michael Schmid, Dr. Sascha Wörz, <u>Prof. Dr. Heinz Bernhardt</u></p> <p>11:30am - 11:50am</p> <p>Technology For Efficient Application Of Liquid Manure: A Comprehensive Modelling Approach On Greenhouse Gas Emissions <u>Bianca Zerhusen</u>, Fabian Lichti, Stefan Nesper</p>	<p>10:50am - 11:10am</p> <p>Slurry application efficiency evaluation <u>Christian Toft Madsen</u>, Nick Skou-Nielsen, Thorkild Qvist Frandsen, Claus Grøn Sørensen, Gareth T.C. Edwards, Ole Green</p> <p>11:10am - 11:30am</p> <p>Fertigation Equipment and Control Techniques: A Review Stefan Vidal, Tatiana Pinho, José Boaventura-Cunha, <u>Josenalde Oliveira</u>, Paulo Moura Oliveira</p> <p>11:30am - 11:32am</p> <p>Effects of Crop Rotation and Fertilization on Soil Fertility and Plant Nutrition <u>Beata Rutkowska</u>, Wojciech Stępień, Wiesław Szulc, Jan Łabętowicz</p> <p>11:32am - 11:34am</p> <p>Increasing the Fertility of Marginal Soils by the Utilization of Waste Organic Matter <u>Wiesław Szulc</u>, Beata Rutkowska</p> <p>11:34am - 11:36am</p> <p>GO EFLUENTES – A New Approach for Animal Waste Management in Portugal <u>Vasco Manuel Fitas da Cruz</u>, Olga Conde Moreira, Elizabeth Duarte, Henrique Trindade</p>
<p>12:00pm - 1:30pm</p>	<p>Lunch 03: Lunch Tuesday Location: Orion Restaurant</p>								
<p>12:15pm - 1:15pm</p>	<p>Campus Tour 11: Agro-food robotics 1 - Horticulture</p>	<p>Campus Tour 12: Agro-food robotics 2 - Open field</p>	<p>Campus Tour 13: Carus - Research facility animal sciences</p>	<p>Campus Tour 14: AlgaePARC - Pilot facility algae research</p>	<p>Campus Tour 15</p>	<p>Campus Tour 16</p>	<p>Campus Tour 17</p>	<p>EurAgEng 07: EurAgEng General assembly - Open meeting (for all attendees) Location: Orion Room</p>	

									<p>C1032 & C2035 Chair: David Tinker Chair: Dr. Claus Sørensen</p> <p>EurAgEng Recognition Awards David Tinker</p>
1:30pm - 3:00pm	<p>Session 41 ENGAGE: ENGAGE Engineering future food – The position of agricultural engineering Location: Orion Room C1005 Chair: Dr. Reiner Brunsch</p>	<p>Session 42 AgEng 03: Agricultural engineering – The role of education Location: Orion Room C1040 Chair: Prof. Pierluigi Febo</p> <p>1:30pm - 1:50pm Innovative Education Towards Sustainable Food Systems: Preliminary Results From Spain Teresa Briz, Francisco Ayuga, Ana I. García, Dominika Srednicka-Tober, Ewa Rembialkowska</p> <p>1:50pm - 2:10pm Harmonisation of Higher Education in Agricultural/Biosystems Engineering Antonio Comparetti, Pierluigi Febo</p> <p>2:10pm - 2:30pm The BSc and MSc study Programme Biosystems Engineering at Wageningen University Wilko van Loon</p>			<p>Session 43: Publication workshop by Elsevier / Journal of Biosystems Engineering Location: Orion Room C1032 Chair: Dr. Bill Day Chair: Dr. Steve Parkin</p>				
3:00pm - 4:00pm	<p>Coffee break 6 posters: Coffee break and poster session Tuesday afternoon Location: Orion Restaurant Further information to be specified</p>								
4:00pm - 5:30pm	<p>Session 51: Topic 7 VERA workshop - Harmonisation of livestock emission measurements in EU Location: Orion Room C2050 Chair: Dr. Nico Ogink</p>	<p>Session 52: Topic 9 Greenhouse production technology - Various topics Location: Orion Room C2051 Chair: Dr. Thomas Bartzanas</p> <p>4:00pm - 4:20pm Wind Pressures on Arched Roof Greenhouses Anastasios Giannoulis, Demetres Briassoulis, Antonis Mistriotis</p> <p>4:20pm - 4:40pm Rule-based Versus Model-based Control of the Greenhouse Environment Ido Seginer, Peter J.M. van Beveren, Gerrit van Straten</p> <p>4:40pm - 5:00pm Analysis of Greenhouse Cover Properties for Optimal Net Financial Result Yuexiang Chen, Bert van 't Ooster, Eldert van Henten</p> <p>5:00pm - 5:20pm Disease Detection and Rate of Spread in Solanum Lycopersicum Leaves Under Variable Bioenvironmental Conditions Using Image Processing Technique Frank Gyan Okyere, Hyeon Tae Kim,</p>	<p>Session 53: Topic 4 Robotic systems using satellites for yield monitoring Location: Orion Room C2005 Chair: Prof. Gilbert Grenier</p> <p>4:00pm - 4:20pm Assessing the Spatio-Temporal Alfalfa yield variability Using Landsat-8 and Yield Monitor Data at field scale Ahmed Kayad, Khalid Al-Gaadi, ElKamil Tola, Rangaswamy Madugundu, Marco Sozzi, Francesco Marinello</p> <p>4:20pm - 4:40pm Benchmark Of Satellites Image Service For Precision Agricultural Use Marco Sozzi, Francesco Marinello, Andrea Pezzuolo, Luigi Sartori</p> <p>4:40pm - 5:00pm Current potentials and challenges using Sentinel-1 for broadacre field remote sensing Martin Peter Christiansen, Morten Stigaard Laursen, Birgitte Feld Mikkelsen, Rasmus Nyholm Jørgensen, Nima Teimouri, Claus Aage Grøn</p>	<p>Session 54: Topic 10 Post harvest storage conditions Location: Orion Room C2006 Chair: Prof. Wolfgang Büscher</p> <p>4:00pm - 4:20pm Design Of An Innovative Plant For Fast Freezing Of Potato Dumplings Alessandro Biglia, Lorenzo Comba, Paolo Barge, Enrico Fabrizio, Davide Ricauda Aimonino, Cristina Tortia, Paolo Gay</p> <p>4:20pm - 4:40pm Influence Of Physical And Chemicals Characteristics From Pumpkin For Its Mechanized Processing Erich Dietmar Rössel-Kipping, Hipolito Ortiz-Laurel, Alejandro Amante-Orozco, Hector Martin Duran-Garcia, L Araceli Lopez-Martinez</p> <p>4:40pm - 5:00pm Effect of Accelerated Storage Conditions on Pearl Millet Based Fried Snack Pramod Kumar Omre, Ajita Tiwari</p> <p>5:00pm - 5:20pm Wall Pressures On Oblique Hoppers Of</p>	<p>Session 55: Topic 1 Challenges for future livestock systems Location: Orion Room C1005 Chair: Prof. Peter (P.W.G.) Groot Koerkamp</p> <p>4:00pm - 4:20pm A Model to Assess Environmental Efficiency of Pig Production Systems Luis Lassaletta, Fernando Estellés, Arthur Beusen, Lex Bowman, Salvador Calvet, Hans van Grinsven, Jonathan Doelman, Elke Stehfest, Aimable Uwizeye, Henk Westhoek</p> <p>4:20pm - 4:40pm Monitoring Framework for the Assessment of the Integral Sustainability of Livestock Production Abraham Paulus Bos, Daniel Puente Rodríguez, Peter W.G. Groot Koerkamp</p> <p>4:40pm - 5:00pm Interactive System Analysis Of Livestock Production In The Galápagos Islands: Co-designing Through Knowledge-Practice</p>	<p>Session 56: Topic 2 New farming management systems - Precision farming 1 Location: Orion Room C2035 Chair: Prof. Peter Schulze Lammers</p> <p>4:00pm - 4:20pm Enhanced Vineyard Descriptors Combining UAV 2D and 3D Models Lorenzo Comba, Alessandro Biglia, Davide Ricauda Aimonino, Paolo Barge, Cristina Tortia, Paolo Gay</p> <p>4:20pm - 4:40pm A Territorial Services Platform for the Sustainable Precision Agriculture Applied to the Viticulture and Olive Growing Companies. Daniele Sarri, Marco Vieri, Marco Rimediotti, Marco Antoni, Sara Gallucci</p> <p>4:40pm - 5:00pm Low Cost integral system for irrigation remote management based on a communication nodes network with sensors, weighing lysimetry and supervision of</p>	<p>Session 57: Topic 8 Plant production technologies - Phenotyping pests and crops Location: Orion Room C2030 Chair: Dr. Gert Kootstra</p> <p>4:00pm - 4:20pm In-field Potato Diseases Detection Kim Arild Steen, Stéphane Delebassé, Kevin Grooters, Carsten Høilund, Mads Dyrmann, Søren Skovsen, Rasmus Nyholm Røccuzzo, Ole Green</p> <p>4:20pm - 4:40pm Automatic Monitoring of Insects in Oil Seed Crops Anders Jonsson, Fredrik Winquist</p> <p>4:40pm - 5:00pm Effects of Drone Based Spatial and Temporal Distribution of Fertiliser in Grassland: Experiment Grass4Farming Kees Lokhorst, Jouke Oenema, Koos Verloop, Idse Hoving, Tamara Wind</p> <p>5:00pm - 5:20pm Towards A More Sustainable Way Of Nitrogen Management In Potatoes</p>	<p>Session 58: Topic 5 Energy use and ghg emissions from various systems Location: Orion Room C1040 Chair: Jan Kamp</p> <p>4:00pm - 4:20pm Sustainability Issues Related to Woody Biomass Supply From Fruit Tree Plantation Removal Alberto Assirelli, Massimo Brambilla, Giancarlo Roccuzzo, Carlo Bisaglia</p> <p>4:20pm - 4:40pm Improvement of the carbon balance of irrigated arable crops by applying BMPs in Mediterranean conditions Francisco Márquez-García, Jesus A. Gil-Ribes, Emilio J. González-Sánchez, Gregorio L. Blanco-Roldán</p> <p>4:40pm - 5:00pm Energy Balance and Economical indices in Small-scale Scallion Production System Fatemeh Nadi, Sami Ghnimi</p> <p>5:00pm - 5:02pm Assessing Water Supply</p>	<p>Session 59: Topic 6 Soil, land and water engineering - Soil 1 Location: Orion Room C1032 Chair: Elisa Maria Schopphoven</p> <p>4:00pm - 4:20pm Differential Interferometry as a Tool for Localized Study of Runoff Erosion Francisco A. Sánchez-Crespo, Eutiquio Gallego, José M. Fuentes, Francisco Ayuga, Ana I. García</p> <p>4:20pm - 4:40pm Impacts of Artificial and Natural soil Conditioners on Water holding capacity and Hydraulic Conductivity of Sandy soils Faisal Ibrahim Zeineldin, Khalid Biro1 Turk, Mohammed Refdan Al-Hajhoj</p> <p>4:40pm - 5:00pm Development Of A New Subsoil Management Concept For Combined Deep Loosening And</p>

<p>ByeongEun Moon, Waqas Qasim, Fawad Khan</p> <p>5:20pm - 5:40pm The Role of Crop Properties in Energy Efficient Greenhouse Design <u>David Katzin</u>, Simon van Mourik, Eldert J van Henten</p> <p>5:40pm - 5:42pm Effect of Bench Heating on Growing Medium Temperature and Heat Loss From a Greenhouse in Wintertime <u>Massimo Brambilla</u>, Elio Romano, Maurizio Cutini, Marco Fedrizzi, Mauro Pagano, Gianluca Burchi, Sonia Cacini, Daniele Massa, Chiara Terrosi, Carlo Bisaglia</p> <p>5:42pm - 5:44pm "Effect of Dimethyl ether (DME) Combustion on Lettuce and Chinese cabbage Growth in Greenhouse" <u>Waqas Qasim</u>, Jayanta Kumar Basak, Frank Gyan Okyere, Fawad Khan, Yong Jin Lee, Hyeon Tae Kim</p> <p>5:44pm - 5:46pm Estimation the Strength of Biodegradable Organic Pots During Process of Growing Plants in Control Greenhouse <u>YongJin Lee</u>, Waqas Qasim, Frank Gyan Okyere, Hyeon Tae Kim</p> <p>5:46pm - 5:48pm Sensitivity Analysis of a Modified Equation for Greenhouse Energy Demand Assessment. <u>Massimo Brambilla</u>, Elio Romano, Maurizio Cutini, Marco Fedrizzi, Mauro Pagano, Gianluca Burchi, Sonia Cacini, Daniele Massa, Chiara Terrosi, Carlo Bisaglia</p>	<p>Sørensen</p>	<p>Steel Silos Eutiquio Gallego Vázquez, Adam Sadowski, Jose María Fuentes, Francisco Ayuga</p> <p>5:22pm - 5:24pm Maximization of whey processing in drying units with spare capacity: Brazilian dairy cluster case study Walciney Oliveira, Rodolfo Garcia-Flores, <u>Amauri Rosenthal</u>, Andre Tonon, Pablo Juliano</p> <p>5:24pm - 5:26pm Mandarin Mold Inactivation of Storage at Ambient Temperature by Non-thermal Plasma Treatment <u>Youngwook Seo</u>, Hoeman Park, Jong Ryul Park</p> <p>5:26pm - 5:28pm Monitoring Watercress Shelf-life with VNIR Hyperspectral Image through Packaging Film Miguel Ángel Lara, Lourdes Lleó, Jean Michel Roger, <u>Belén Diezma</u></p>	<p>Interfaces <u>Daniel Puente Rodríguez</u>, Bram Bos, Peter Groot Koerkamp</p> <p>5:00pm - 5:30pm Dairy farming in the future - vision by Lely <u>Arjen van der Kamp</u></p>	<p>the vegetative state for horticultural crops <u>Antonio Ruiz-Canales</u>, José Miguel Molina-Martinez, Martin John Oates, Juan José Pérez-Solano, Amparo Melián Navarro, Jesús Chazarra Zapata, Francisco López Peñalver, José Manuel González Esquivá</p> <p>5:00pm - 5:02pm Application of Precision Viticulture for Thematic Maps Production <u>Pietro Catania</u>, Mariangela Vallone</p> <p>5:02pm - 5:04pm Analysis of Vine Vibration Conditions and Grape Harvest Quality in Spain under Actual Mechanized Harvest Conditions Wilson Da Costa, <u>Pilar Barreiro</u>, Belén Diezma</p> <p>5:04pm - 5:06pm Development Of A Sensing Platform For Agricultural Water Management <u>Min-Sheng Hung</u>, Bo-Chang Tseng, Ruo-Yin Wu</p>	<p>Johan Booji, Frits van Evert, Willem van Geel, Brigitte Kroonen-Backbier, Corné Kempenaar, Thomas Been</p> <p>5:20pm - 5:22pm Automatic Monitoring of Slugs in Winter Crops Ulf Axelsson, Tomas Johansson, <u>Anders Jonsson</u></p> <p>5:22pm - 5:24pm Preliminary data of the associated crop in the growth of Ulmus pumila with different plant coverings. Maria de la Cruz Amorós, Inés Bautista, Antonio Plaza, <u>Pedro Vicente Mauri</u></p> <p>5:24pm - 5:26pm Control Effect of Drone in Rice Sheath Blight Disease <u>Jin-Woo Nam</u>, Seong-Tae Lee, Deok-Gyeong Seong, Young-Gwang Kim, Young-Joi Cho, Kwang-Pyo Hong</p>	<p>Sources Using Life Cycle Assessment: Study Case of Lemon Crop in Southeastern Spain <u>Bernardo Martin-Gorriz</u>, Jose Francisco Maestre-Valero, Victoriano Martinez-Alvarez</p> <p>5:02pm - 5:04pm Modeling the Impact of Carbon Dioxide Emissions on Global Warming <u>Amirhossein Ghadiri</u>, Soroush Marzban</p>	<p>Incorporation Of Organic Material Inga Jakobs, Oliver Schmittmann, Peter Schulze Lammers</p> <p>5:00pm - 5:02pm Evaluation of compaction in no-till vertisol field using methods of cone index and pedotransfer function - case of a Moroccan semi-arid context Yassine Al masmoudi, <u>Abdellah El Aissaoui</u>, Khalid Ibno Namr</p> <p>5:02pm - 5:04pm Novel In Situ System For Monitoring Soil Organic Carbon By Using Mobile Vis-Nir Spectroscopy And Machine Learning Techniques <u>Nikolaos Tziolas</u>, Nikolaos Tsakiridis, Eyal Ben-Dor, Eleni Kalopesa, George Galanis, George Zalidis</p> <p>5:04pm - 5:06pm Development of New Version of the Spiked Shear Vane for Measuring of the Peatland Top Roots Layer Strength <u>Adam Piotr Dubowski</u>, Krzysztof Zembrowski</p> <p>5:06pm - 5:08pm Analysis Of Tillage Operations With Variable Working Machine Parameters Using a Compact Disc Harrow <u>Frank Gyan Okyere</u>, Hyeon Tae Kim, ByeongEun Moon, Waqas Qasim, Min Ho Lee, Jae Min Jo</p>
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<p>5:00pm - 6:00pm</p>	<p>CIGR WGII: CIGR Working group II Structures and environment Location: Orion Room C1005 Chair: Prof. Tomas Norton</p>	<p>EuAgEng WG (2): EurAgEng Innovators Session Location: Orion Room C1032 Chair: David Tinker</p> <p>Demonstration of the Smart Farming Platform <u>David Tinker</u></p>	<p>EurAgEng WG (1): EurAgEng Working Group Rural Buildings and Landscape Location: Orion Room C1040 Chair: Prof. Patrizia Tassinari</p>						
<p>7:00pm - 8:00pm</p>	<p>Welcome reception: Welcome reception and award ceremony Location: Town Hall City of Wageningen (Markt 22, Wageningen)</p> <p>Welcome speech by the Major of the city of Wageningen <u>G.J.M. van Rumund</u></p> <p>EurAgEng Innovation and Development Award <u>Claus Sørensen</u></p> <p>Young Engineers Best Paper Award <u>Claus Sørensen</u></p>								
<p>8:00pm - 11:00pm</p>	<p>Conference dinner: Conference dinner Location: Grote Kerk ("Big Church") (Markt 1, Wageningen)</p>								