



AGENG CONFERENCE 2018

New engineering concepts for a valued agriculture

8 – 12 July 2018, Wageningen, the Netherlands

Conference Agenda

Session Overview

Date: Monday, 09/Jul/2018

7:00am - 5:00pm	Registration Monday: Registration AgEng2018 conference Location: Orion Ground floor								
9:30am - 10:30am	Plenary Session 1: Plenary Session AgEng2018 conference (part 1) Location: Orion Room Waaijer (Room 1005/1040/2005/2006/2050/2051) Chair: Maarten Vrolijk								
	9:30am - 9:45am Welcome and opening speech by Prof. dr. Arthur Mol, Rector Magnificus of WU Arthur Mol								
	9:45am - 9:50am Francis Sevilla Young Professional Award Claus Sørensen								
	9:50am - 9:55am EurAgEng Award of Merit - Scientific Understanding Claus Sørensen								
	9:55am - 10:00am Intermezzo Peter Groot Koerkamp								
	10:00am - 10:30am Agriculture and Artificial Intelligence Joachim Hertzberg								
10:30am - 11:00am	Coffee break 3: Coffee break Monday morning Location: Orion Restaurant								
11:00am - 12:00pm	Plenary session 2: Plenary Session AgEng2018 conference (part 2) Location: Orion Room Waaijer (Room 1005/1040/2005/2006/2050/2051) Chair: Maarten Vrolijk								
	11:00am - 11:10am Outstanding Paper Award of the Journal of Biosystems Engineering Steve Parkin, Bill Day								
	11:10am - 11:15am Intermezzo Peter Groot Koerkamp								
	11:15am - 11:45am When the Best of Technology Meets the Best of Ecology, a Little Bit of Magic Happens Eldert van Henten, Dirk van Apeldoorn								
	11:45am - 12:00pm Good-bye to secretary-general of the EurAgEng society Aad Jongebreur								
12:00pm - 1:30pm	Lunch 02: Lunch Monday Location: Orion Restaurant								
12:15pm - 1:15pm	Campus Tour 01: Agro-food robotics 1 - Horticulture	Campus Tour 02: Agro-food robotics 2 - Open field	Campus Tour 03	Campus Tour 04	Campus Tour 05	Campus Tour 06	Campus Tour 07		
1:30pm - 3:00pm	Session 01: Topic 7 Animal production technology: LivAGE - Measuring and reducing emissions Location: Orion Room C2050 Chair: Dr. Guoqiang Zhang Chair: Dr. Andre Aarmink	Session 02: Topic 7 Animal production technology - Sensors cattle and sheep Location: Orion Room C2051 Chair: Robert Kaufmann 1:30pm - 1:50pm Measuring The Teat Skin	Session 03: Topic 4 Robotic systems in orchards Location: Orion Room C2005 Chair: Prof. Paolo Gay 1:30pm - 1:50pm OrchardMapper: Application for creating tree scale maps from high	Session 04: Topic 4 Robotic systems in livestock Location: Orion Room C2006 Chair: Dr. Thomas Anken 1:30pm - 1:50pm Decision-Tree and Support Vector Machine Algorithms for	Session 05: Topic 10 Post harvest technology Location: Orion Room C1005 Chair: Dr. Antonis Mstriotis 1:30pm - 1:50pm Hyperspectral Imaging For Foal Meat Classification Based On	Session 06: Topic 3 Co-production and implementations of technology 1 Location: Orion Room C2035 Chair: Prof. Pilar Barreiro 1:30pm - 1:50pm An Inventory of Smart	Session 07: Topic 8 Plant production technologies - Planting Location: Orion Room C2030 Chair: Dr. Corné Kempenaar 1:30pm - 1:50pm Design And Development Of Machinery	Session 08: Topic 5 New energy sources for agricultural applications Location: Orion Room C1040 Chair: Dr. Piotr Biernacki 1:30pm - 1:50pm Methanol As A Renewable	Session 09: Topic 6 Soil, land and water engineering - Water 1 Location: Orion Room C1032 Chair: Prof. Francisco Ayuga 1:30pm - 1:50pm Climate Change

	<p>Ventilated Barns David Janke, Diliara Willink, Sabrina Hempel, Christian Ammon, Barbara Amon, Thomas Amon</p> <p>2:42pm - 2:54pm Legal Requirements on Ammonia and Greenhouse Gas Emission from Animal Production Buildings in European Countries Bjarne Bjerg</p>					<p>Ruiz, Daniele Sarri</p> <p>2:34pm - 2:36pm Long-term tracking and automated analysis of tractor behaviour with JDLINK Pilar Barreiro, Miguel Garrido-Izard, Ismael Rueda, Antonio Rabasco</p>			<p>input, parameter and conceptual model uncertainty in groundwater modelling Syed Md Touhidul Mustafa, Jiri Nossent, Gert Ghysels, Marijke Huysmans</p>
<p>3:00pm - 4:00pm</p>	<p>Coffee break 4 Posters: Coffee break and poster session Monday afternoon Location: Orion Restaurant</p>								
<p>4:00pm - 5:30pm</p>	<p>Session 11: Topic 7 Animal production technology: LivAGE - Modelling emissions Location: Orion Room C2050 Chair: Dr. Guoqiang Zhang Chair: Dr. Andre Aarnink</p> <p>4:00pm - 4:12pm Recent Advances of Modeling and Experimental Verification of Ammonia and Greenhouse Gas Emissions from Dairy Housing Christopher Choi</p> <p>4:12pm - 4:24pm Analysis of Factors Affecting Ammonia and Methane Emissions from Pig Slurries: Slurry Composition and Dietary Factors Walter Antezana, Alba Cerisuelo, Fernando Estellés, Salvador Calvet</p> <p>4:24pm - 4:36pm Effects of Environmental and Litter Factors on Ammonia Emission from Broiler Houses Andre Aarnink, Jan Van Harn, Klaas Blanken, Nico Ogink</p> <p>4:36pm - 4:48pm Development of a Computational Fluid Dynamics (CFD) Based Ammonia Emission Model</p>	<p>Session 12: Topic 7 Animal production technology - Sensors pigs and poultry Location: Orion Room C2051 Chair: Pieter Hogewerf</p> <p>4:00pm - 4:20pm Predictors for Disease Severity in Growing Pigs Ingrid van Dixhoorn, Rudi de Mol, Marion Kluivers, Norbert Stockhofe-Zurwieden, Annemarie Rebel</p> <p>4:20pm - 4:40pm Broiler Health Monitoring Through Automatic Camera-based Technologies Tom Van Hertem, Sofie Cardinaels, Kris Debaere, Johan Zoons, Erik Vranken, Gijs van den Berg</p> <p>4:40pm - 5:00pm Automatic Detection of Sneezing Sounds in Broiler Chickens Lenn Carpentier, Alberto Peña Fernández, Christel Verbesselt, Erik Vranken, Jan Paeshuysse, Tomas Norton, Daniel Berckmans</p> <p>5:00pm - 5:02pm Evaluating Pig Ear Skin Temperature: Intercontinental Transport vs Housing conditions Miguel Garrido-Izard, José M.</p>	<p>Session 13: Topic 4 Robotic systems in open fields Location: Orion Room C2005 Chair: Dr. Gerrit Polder</p> <p>4:00pm - 4:20pm Automatic Detection Of Broccoli Heads In Open Field Using An Artificial Neural Network Pieter M. Blok, Toon Tielen, Joris M. M. IJsselmuiden, Gert Kootstra</p> <p>4:20pm - 4:40pm Virus Infection Detection in Hyperspectral Images of Potato Plants using Deep Neural Networks Hendrik Adrianus Cornelis De Villiers, Pieter Marinus Blok, Gerrit Polder</p> <p>4:40pm - 5:00pm AgROSense, a real-time height compensation mechanism for crop monitoring applications Michael Terzer, Raimondo Gallo, Michael Riedl, Fabrizio Mazzetto</p> <p>5:00pm - 5:20pm Data Acquisition Platform for Collecting High-Quality Images of Cultivated Weeds Simon Leminen Madsen, Mads Dyrmann, Morten Stigaard Laursen, Solvejg Kopp Mathiassen, Rasmus Nyholm Jørgensen</p>	<p>Session 14: Topic 4 Robotic systems in pastures Location: Orion Room C2006 Chair: Dr. Lammert Kooistra</p> <p>4:00pm - 4:20pm Novel systems for pasture characterization using RGB-D cameras and UAV-imagery Victor Rueda-Ayala, José Manuel Peña, José María Bengochea Guevara, Mats Höglind, Christian Rueda-Ayala, Dionisio Andújar</p> <p>4:20pm - 4:40pm Estimating Pasture Nitrogen Content using Thermal Images Majeed Safa, Kirsty H Martin, Tom Maxwell, Birendra KC</p> <p>4:40pm - 5:00pm Challenges in modern automated Feeding Systems: Navigation Technologies Matthias Reger, Johannes Friedrich, Sascha Wörz, Jörn Stumpfenhausen, Anton Sieghart, Heinz Bernhardt</p> <p>5:00pm - 5:20pm Design of a Driving Robot for Collecting Floor Eggs Weichao Zheng, Dongxu Zhang, Changle Pang, Guanghui Teng, Chaoyuan Wang, Baoming Li</p> <p>5:20pm - 5:22pm</p>	<p>Session 15: Topic 2 New farming management systems - General Location: Orion Room C1005 Chair: Dr. Rik van der Tol</p> <p>4:00pm - 4:20pm Inspiring Students With An Introduction To Smart Dairy Farming C. {Kees} Lokhorst</p> <p>4:20pm - 4:40pm Adoption of Precision Farming by Flemish Farmers Tom Van Bogaert, Jelle Lecomte, Ruben Janssens, Ellen Maertens, Jürgen Vangeyte, Stephanie Van Weyenberg</p> <p>4:40pm - 5:00pm Connectivity of Agricultural Equipment and Applications - Strategic Approaches and Technical Standards Matthias Rothmund</p> <p>5:00pm - 5:20pm The Analysis Of Tweets In French Agriculture Using OLAP Systems Sandro Bimonte, Omar Boussaid, Jean-pierre Chanet</p> <p>5:20pm - 5:22pm The Outlook of Big Data Application in Agriculture in China Wensheng Wang, Leifeng Guo</p>	<p>Session 16: Topic 3 Co-production and implementations of technology 2 Location: Orion Room C2035 Chair: Prof. Peter (P.W.G.) Groot Koerkamp</p> <p>4:00pm - 4:20pm Adoption of automatic feeding systems in bovine livestock farms: a on-farm survey on Italian situation Carlo Bisaglia, Massimo Brambilla, Maurizio Cutini, Alberto Assirelli</p> <p>4:20pm - 4:40pm Promotion of Circular Economy in Alentejo's Agri-food Sector Vasco Manuel Fitas da Cruz, Bruno Magalhães, Cristina Ascenço, Fátima Baptista</p> <p>4:40pm - 5:00pm A Technical-Economic Analysis Of Precision Spraying In Vineyard And Apple Orchard Emanuele Tona, Aldo Calcante, Roberto Oberti</p> <p>5:00pm - 5:20pm Automation And Robotics Examples And Way of Working Of Collaboration</p>	<p>Session 17: Topic 8 Plant production technologies - Tillage and CTF Location: Orion Room C2030 Chair: Jan Kamp</p> <p>4:00pm - 4:20pm In-field Traffic Management: Logistics Optimisation Tool As A Soil Compaction Mitigation Strategy Andrés Villa-Henriksen, Nick Skou-Nielsen, Alevtina Evgrafova, Claus A. Grøn Sørensen, Ole Green, Gareth T.C. Edwards</p> <p>4:20pm - 4:40pm Controlled Traffic Farming "light" - A way to improve soil structure? Annett Latsch, Thonn Anken</p> <p>4:40pm - 5:00pm Optimization Of The Main-Headland Zone Using Mouldboard Plough Section Control To Improve The Conditions For Crop Establishment Søren Kirkegaard-Nielsen, Lars Juhl Munkholm, Frederik Foldager, Alevtina Evgrafova, Michael Hviid Aarestrup, Martin Hviid Kristensen, Hans Christian Carstensen, Michael Nørreemark, Jesper Rasmussen, Ole</p>	<p>Session 18: Topic 5 Biogas production from novel substrates Location: Orion Room C1040 Chair: Dr. Roland W. Melse</p> <p>4:00pm - 4:20pm Unutilized Silage as a Biogas Substrate Johanna Lund, Carina Gunnarsson, Erik Fischer</p> <p>4:20pm - 4:40pm Flexible Operation Of Biogas And Biomethane Plants To Cover The Residual Load Rises Lena Peters, Sven Steinigeweg, Piotr Biernacki, Frank Uhlenhut</p> <p>4:40pm - 5:00pm GIS-Based Biogas Potential Assessment of Anambra State of Nigeria Emmanuel Chibundo Chukwuma, Victor Ndirika, Esomchukwu Igboke</p> <p>5:00pm - 5:20pm Anaerobic Co-digestion of Various Types of Agricultural Biomass Robert Spajić, Davor Kralik, Daria Jovičić, Đurđica</p>	<p>Session 19 Location: Orion Room C1032</p>

	<p>for a Ground Channel Ventilated Pig House Raphael Kubeba Tabase, Veerle Van Linden, <u>Peter Demeyer</u>, Jan Vierendeels</p> <p>4:48pm - 5:00pm Effect of Sidewall Openings on Flow Pattern and Gas Emissions of a Naturally Ventilated Dairy Barn – A Wind Tunnel Study <u>Qianying Yi</u>, Guoqiang Zhang, Marcel König, David Janke, Sabrina Hempel, Barbara Amon, Thomas Amon</p> <p>5:00pm - 5:12pm Challenges Of Predicting Ammonia Mass Transfer Coefficient In Pig Houses <u>Li Rong</u>, Andre Aarnink, Guoqiang Zhang</p> <p>5:12pm - 5:24pm Microclimate Characterisation And Ammonia Emissions Of Typical Greek Livestock Buildings <u>Thomas Bartzanas</u>, Catherine Baxevanou, Dimitris Fidaros</p>	<p>Requejo, Eva C. Correa, <u>Belén Diezma</u></p> <p>5:02pm - 5:04pm Side and belly lying posture detection in group pig based on binary images and SVM classifier <u>Abozar Nasirahmadi</u>, Oliver Hensel, Simone Müller, Phil Kirchhofer, Barbara Sturm</p> <p>5:04pm - 5:06pm Gender Distinction of Broiler Breeders by Camera <u>Dong Liu</u>, Erik Vranken, Lenn Carpentier, Alberto Peña Fernández, Bernice Lim, Tomas Norton</p>	<p>5:20pm - 5:22pm Design Of Simplified Optical Devices For The Agrofood Sector: Case Studies From Pre-Harvest To Post-Harvest <u>Roberto Beghi</u>, Valentina Giovenzana, Alessio Tugnolo, Riccardo Guidetti</p> <p>5:22pm - 5:24pm Implementation and Test of a Multi-functional Agricultural Robot based on Machine Vision in Nursery <u>Chung-Liang Chang</u>, Kuan-Ming Lin</p> <p>5:24pm - 5:26pm SPAD and hyperspectral images for sensing chlorosis affection in peach trees María Victoria Lafuente, <u>Pilar Barreiro</u>, Jean-Michel Roger, Lourdes Lleó</p>	<p>Evaluation of Pasture Productivity and Quality in the Montado Ecosystem Using Proximal Sensors <u>João Manuel Pereira Ramalho Serrano</u>, Shakib Shahidian, José Marques da Silva, Francisco Moral</p>		<p>Between Industry And Research institutes, <u>Rick van de Zedde</u>, Bram de Vrugt</p> <p>5:20pm - 5:22pm What are Driving factors and barriers of organic rice production in Iran? <u>Mohammad Sadegh Allahyari</u>, Hamid Mahdavi, Christos A. Damalas, Emily Shea Dunn</p> <p>5:22pm - 5:24pm Spatial distribution of mechanization levels in Italian greenhouses <u>Elio Romano</u>, <u>Massimo Brambilla</u>, Maurizio Cutini, Pietro Toscano, Felicetta Carillo, Carlo Bisaglia</p>	<p>Green</p> <p>5:00pm - 5:20pm Yield Response and Crop Damage Induced by Multipath vs. Multidrive Transport Trailers <u>Alevtina Evgrafova</u>, Søren Kirkegaard Nielsen, Mette Walter, Søren Boldsen, Mathieu Lamandé, Claes Dühring Jøger, Lars Munkholm, Ole Green</p> <p>5:20pm - 5:22pm TRACLAS: a project to improve under canopy tractor safety in case of overturning <u>Domenico Pessina</u>, Davide Facchnetti, Pierluigi Febo, Santo Orlando, Danilo Monarca, Massimo Cecchini, Simone Pascuzzi, Francesco Santoro, Maurizio Cutini, Vincenzo Laurendi</p>	<p>Kovačić</p> <p>5:20pm - 5:22pm Climate Costs of Anaerobic Treatment of Food Waste Co-digested with Animal Manure <u>John Morken</u></p>	
<p>5:30pm - 7:30pm</p>	<p>ASABE/EurAgEng meeting: ASABE-EurAgEng collaboration on Global Initiative for Sustainability Location: <u>Orion Room C1040</u> Chair: Dr. Claus Sørensen Chair: Prof. Lalit Verma</p>				<p>Workshop LivAGE: Ammonia and greenhouse gas emission from livestock housing Location: <u>Orion Room C1005</u> Chair: Dr. Peter Demeyer Chair: Dr. Andre Aarnink</p>				
<p>7:30pm - 11:00pm</p>	<p>Dinner Monday: Young Engineers Drinks & Barbecue</p>								