

POSTER SESSIONS

ASE-Applied Science and Engineering

Live Q&A via Zoom: Wednesday 7/15 at 12:30 – 1:00 PM

ID #	Session Title	Session Authors	Presenting Author
2000030	Dairy Manure Treatment through Solid-Liquid Separation Via Flocculation and Microalgal Cultivation	Lide Chen, Liang Wang, Sarah Wu, Kevin Krugger	Lide Chen, University of Idaho
2000096	Pine as a Biofiber Reinforcement in Composites for Additive Manufacturing	Xianhui Zhao, Kai Li, Halil Tekinalp, Erin Webb, Soydan Ozcan	Xianhui Zhao, Oak Ridge National Laboratory
2000160	Electrical Stimulus Reversibly Modulates Enzyme Activity via Entrapment in Electro-Responsive Hydrogel	Varun Gejji, Laura Soto Sierra, Haoqi Wang, Sandun Fernando, Kasun Samavath Mallawarachchi	Samavath Mallawarachchi, Texas A&M University
2000190	“Hot Spots” and “Hot Times” of Neonicotinoid Pesticides in Agriculturally Dominated Watersheds	Josephus Borsuah, Tiffany L. Messer, Dan Snow	Josephus Borsuah, University of Nebraska-Lincoln
2000284	Degradation of Chlortetracycline and Tylosin in Swine Manure via Anaerobic Digestion	Teng Teeh Lim, Chung-Ho Lin, Aaron C. Ericsson, Ali Hosseini Taleghani	Ali Hosseini Taleghani, University of Missouri
2000300	ATV Aware: An All-Terrain Vehicle Safety Educational Experience	Alex Farfalla, Tracy Dethlefs, Erin Howard, Aaron Yoder, Ellen Duysen, Susan Harris	Susan Harris, University of Nebraska-Lincoln
2000318	Design of Membrane Amount Detection System for Cotton Round Molding Machine	Zhiguo Ma, Liangdong Liu, Decheng Wang, Xianshun Sun, Xiaolong Huan, Jianping Li, Peng Xu, Xuening Zhang, Hongda Wang	Peng Xu, China Agricultural University
2000346	Hydroponics Vertical Farm as a Viable Utility Model to Implantation in Mexico City	Ernesto Rodríguez, Daniel Fuentes, Hector Flores, Jorge Flores Velazquez	Jorge Flores Velazquez, Postgrado en Hidrociencias Colegio de Postgraduados
2000348	Design of Control System of Cotton Round Molding Device	Xianshun Sun, Liangdong Liu, Decheng Wang, Hongda Wang, Zhiguo Ma, Xuening Zhang, Peng Xu, Shixiong Li	Hongda Wang, China Agricultural University
2000349	Research on the Progress of Key Technology of Cotton Harvester	Xianshun Sun, Liangdong Liu, Decheng Wang, Peng Xu, Zhiguo Ma, Xuening Zhang, Hongda Wang, Shixiong Li	Peng Xu, China Agricultural University

2000399 Determination of Rice Fatty Acids by NIR-Spectroscopy and Chemometrics Algorithms	Yachao Liu, Yongyu Li, Yankun Peng, Shuai Yan, Shaojin Ma	Yachao Liu, China Agricultural University
2000405 Self-propelled Forage Harvester	Xuening Zhang, Yong You, Decheng Wang, Xianshun Sun, Jie Lv, Ziwen Guo, Peng Xu, Jun Luo, Zhiguo Ma, Hongda Wang	Xuening Zhang ,China Agricultural University
2000429 Simulation Based Evaluation of Smart Targeting Anti-Microbial Peptides as Citrus Greening Inhibitors	Kranthi Mandadi, Sandun Fernando, Kasun Samavath Mallawarachchi	Samavath Mallawarachchi, Texas A&M University
2000448 Review of Measurement Methods for Poultry Digesta Viscosity	Caleb Nindo, Mike Barnas	Mike Barnas, University of Maryland-Eastern Shore
2000497 Segmentation of Beef Marbling Based on Fully Convolutional Networks	Xinlong Zhao, Yankun Peng, Yongyu Li, Long Li	Long Li, China Agricultural University
2000498 Detection and Classification Manipulator System for Apple Based on Machine Vision and Optical Technology	Miao Zhao, Yankun Peng, Long Li, Xin Qiao	Long Li, China Agricultural University
2000508 Design and Test of Pre-Compression Device for Continuous Round Baler	Jie Lv, Yong You, Decheng Wang, Yonglu Zhang, Peng Xu, Xuening Zhang, Hongda Wang, Jun Luo, Xianshun Sun, Zhiguo Ma	Hongda Wang, China Agricultural University
2000511 Design of Vineyard Obstacle Avoidance Weeder	Hongda Wang, Yong You,Ziwen Guo, Xuening Zhang, Jie Lv, Xu Bai	Hongda Wang, China Agricultural University
2000514 DEM Analysis of Different Lifter Shapes on Heat Transfer Performance in Drum Drying	Ziwen Guo, Zhiqin Wang, Hongda Wang, Xuening Zhang	Xuening Zhang, China Agricultural University
2000553 Intermittent Cotreatment: Biomimicry to Enhance Anaerobic Digestion of Switchgrass	Andrew May, Anahita Bharadwaj, Katie Hirl, Michael Shreve, Tom Richard	Andrew May, Pennsylvania State University
2000559 Changes in Soybean Quality under Controlled Environmental Conditions Using Static Grain Respiration Measurement System	Alessandra Nicoletti, Ana B. Gatsakos, Loren W. Steinman, Richard S. Gates, Kent D. Rausch, Mariane Pastorelli Lantanze	Mariane Pastorelli Latanze, University of Illinois at Urbana-Champaign

2000612 Influence of Lime Mud on the Behavior of Kinetics and Thermodynamics for Biomass Pyrolysis	Hui Li, Nan Zhou, Feiqiang Guo, Yunpu Wang, Leilei Dai, Wenyi Deng, Chenhui Liu, Yanling Cheng, Peng Peng, Yuhuan Liu, Paul Chen, Roger Ruan	Hui Li, University of Minnesota
2000694 Comprehensive Evaluation Method of Ham Spoilage Based on Hyperspectral Technique	Qibin Zhuang, Yankun Peng, Yali Wang, Xinlong Zhao, Fachao Jiang, Deyong Yang	Yankun Peng, China Agricultural University
2000978 Study on Mechanical Braid Technology and Special Forming Device	Shuai Li, Huijuan Bai, Yulong Lin, Jiao Xu, Botong Cai, Songlong Wang	Jiao Xu, BIGC
2001117 Preparation of Nanocellulose by Enzymatic Hydrolysis of Cellulose Pretreated with Carbon-Based Solid Acid	Yunfeng Zhao, Hanwu Lei, Moriko Qiana, Erguang Huo, Rongge Zou	Rongge Zou, Washington State University
2001220 Examining the Utilization of Urban Data Triangulation for Rural International Engineering Projects	Luis F. Rodriguez, Ann-Perry Witmer, Alexandra Timmons	Alexandra Timmons, University of Illinois Urbana-Champaign
2001283 Flexural and Crack Resistance Properties of Concrete Biocomposites Consisting of Pine Particles and Micronized Rubber Powder	Jason Street, R. Daniel Seale, John Cole	John Cole, University of Tennessee at Martin
2001290 Using Color Images to Detect Agronomic Response of Wheat to Irrigation	Jose Payero, Graham Harris	Jose Payero, Clemson University
2001347 Development of an Internet-of-Things System for Measuring Agricultural Runoff	Jose Payero, Michael Marshall	Jose Payero, Clemson University
2001368 Life Cycle Assessment of Miscanthus Produced Biochar used for Phosphate Recovery from Wastewater	Abolghasem Shahbazi, Shuangning Xiu, Aicha Slassi Sennou	Aicha Slassi Sennou, North Carolina A&T State University
2001389 Computational Fluid Dynamics (CFD) Analysis of a Compound Weir by Irrigation Use	Eick Mattos, Hector Flores, Ernesto Rodriguez, Jorge Flores	Jorge Flores, Colpos
2001456 Using Open-Source Electronics for Sensor-Based Irrigation Automation	Jose Payero, Rebecca Davis	Jose Payero, Clemson University

EOPD-Education, Outreach, & Professional Development

Live Q&A via Zoom: Tuesday 7/14 at 4:00 – 5:00 PM

ID #	Session Title	Session Authors	Presenting Author
2000570	A Retrospective Pre-Post Survey to Analyze Perceived Learning in an Environmental Systems for Agricultural Structures Course	Adam Watson, Ying Zhang, Jonathan Watson	Jonathan Watson, University of Florida
2000647	WE CAN – Bridging the Gap Between Engineering and Biology Through High Impact Learning	Paul C. Davidson, Michelle L. Green	Paul Davidson, University of Illinois
2000706	Communication of the Nitrogen Use Efficiency System Using Simple Images and a Common Graphical Representation	Rebecca Whetton, Nicholas M. Holden	Nicholas M. Holden, UCD School of Biosystems Engineering
2001196	Effectively Communicating On-Farm Research Results to Support Farm Level Decision-Making	John Fulton, Jason Hartschuh, Elizabeth Hawkins	Elizabeth Hawkins, The Ohio State University
2001277	Hands-On And Project-Based Learning Strategies in an Ecological Engineering Course	Niroj Aryal	Niroj Aryal, North Carolina A&T State University
2001506	Engaging Student Competitiveness Through Technology	John Long	John M Long, Oklahoma State University
2001520	The ‘Introduction to Biosystems Engineering’ Textbook	Mary Leigh Wolfe, Jactone Ogejo, Enda Cummins	Nicholas Holden, University College Dublin

ES-Energy Systems

Live Q&A via Zoom: Wednesday 7/15 at 10:00 – 11:00 AM

ID #	Session Title	Session Authors	Presenting Author
2000060	Effects of Moisture on the Fundamental Mechanical Properties in the Prediction of the Flowability of Biomass	Christopher Lanning, Matthew Wamsley, Yang Li, Virendra M. Puri, James H. Dooley, Hojae Yi	Hojae Yi, Pennsylvania State University
2000117	The Role of Lignocellulosic Structural Constituents in the Frictional Behavior of Switchgrass Particulates	Eric Drumm, Nourredine Abdoulmoumine, Ekramul Haque Ehite	Ekramul Haque Ehite, University of Tennessee
2000301	Water-Soluble Sugars of Pedigreed Sorghum Mutant Stalks and Their Recovery after Pretreatment	Youjie Xua, Jun Lia, Zhanguo Xinb, Scott Beanc, Mike Tilleyc, Donghai Wang	Youjie Xu, Kansas State University

2000425	Technical and Economic Viability of Process Integrating Water-Based Anthocyanin Extraction and Ethanol Production Using Purple Corn	Chinmay Kurambhatti, Deepak Kumar, Kent D. Rausch, Mike E. Tumbleson, Vijay Singh	Chinmay Kurambhatti, University of Illinois, Urbana-Champaign
2000690	Bioresource Recovery in the Australian Red Meat Processing Industry: A Technical Review of Strategies for Increased Circularity	Lisandra Rocha-Meneses, Stephan Tait, Peter W. Harris, Diogenes L. Antille, Craig Baillie, Bernadette K. McCabe	Bernadette K. McCabe, University of Southern Queensland
2000833	Phenolation as A Pre-Treatment to Improve the Reactivity of Lignin In Depolymerization Reactions	Vivek Patil, Sushil Adhikari, Hossein Jahromi	Vivek Patil, Auburn University
2000861	Characteristics of Substrates Producing Hydrogen Sulfide in Anaerobic Digestion Systems	Ji-Qin Ni, Sarah Daly	Sarah Daly, Purdue University
2000905	Enhancement of H₂ Generation Via Catalytic Pyrolysis of Biomass over Nanocellulose Derived Biochar Catalyst	Chenxi Wang, Hanwu Lei, Yunfeng Zhao, Marie Qian, Erguang Huo, Wendy Mateo, Elmar Mateo	Chenxi Wang, Washington State University
2000989	Nitrogen-Doped Biochars: Effect of Different Nitrogen Precursors on Physical and Chemical Properties	Nitesh Kasera, Steven Hall, Praveen Kolar	Praveen Kolar, North Carolina State University
2001012	Effect of Different Nitrogen Precursors on the Adsorptive Properties of Biochar	Praveen Kolar, Steve Hall, Nitesh Kasera	Nitesh Kasera, North Carolina State University
2001116	Two-Stage Hydrothermal and Mechanical Refining Pretreatment of Energy Cane Bagasse to Improve Sugar Yields during Enzymatic Hydrolysis	Deepak Kumar, Vijay Kumar Singh, Yuyao Jia, Ankita Juneja, Yadvika, Vijay Singh	Deepak Kumar, SUNY ESF
2001168	Impact of Disk Milling on Fermentation Performance and In-Situ Fiber Conversion in Dry Grind Ethanol Process	Chinmay Kurambhatti, Deepak Kumar, Vijay Singh	Chinmay Kurambhatti, University of Illinois, Urbana-Champaign
2001236	Hydrothermal Carbonization of Anaerobically Digested Cattail for Co-Production of Value-Added Fertilizer and Biochar	Sanjaya Ghimire, Bo Zhang, Lijun Wang	Lijun Wang, North Carolina Agricultural and Technical State University
2001324	Shear Properties of Loblolly Pine and Flow Characterization in Variable Wedge Hopper Geometries	Tlasha Bhattacharjee, Wencheng Jin, Yidong Xia, Jordan Klinger	Jordan Klinger, Idaho National Laboratory

2001350	The Natural Physical and Chemical Variability of Hardwood Woody Biomass Across the SE Region	Darlene Filomen, Ekramul EHITE, Ross Houston and Nourredine (Nour) Abdoulmoumine	Nourredine Abdoulmoumine, University of Tennessee
2001530	Optimal Utilization of Light Energy in Semi-Enclosed Greenhouse Based on Three-Dimensional Cucumber Model	Tingting Qian, Xiuguo Zheng, Juan Yang, Yeying Xu, Yan Wang, Shenglian Lu	Tingting Qian, Shanghai Academy of Agriculture Sciences

ESH-Ergonomics, Safety, & Health

Live Q&A via Zoom: Tuesday 7/14 at 4:00 – 5:00 PM

ID #	Session Title	Session Authors	Presenting Author
2000240	A One-Health Approach to Safety Instruction: A Framework for Livestock Housing Environment Monitoring Using Arduino-Based Sensors	Dan Hofstetter, Michael Pate	Michael Pate, Utah State University
2000252	Nonlinear Dynamics of Bouncing Tractor in Tractor Driving Simulator	Kenshi Sakai, Masahisa Watanabe	Masahisa Watanabe, Tokyo University of Agriculture and Technology
2001042	The iAMResponsible Project™: Building a Communication Network to Motivate Broad Action on Antimicrobial Resistance	Mara Zelt, Amy Schmidt	Mara Zelt, University of Nebraska - Lincoln

ITSC-Information Technology, Sensors & Control Systems

Live Q&A via Zoom: Tuesday 7/14 at 4:00 – 5:00 PM

ID #	Session Title	Session Authors	Presenting Author
2000038	A Comparison of Precision Agriculture Technologies Adoption in 2005 and 2018 in Florida	Tara Wade, Yiannis Ampatzidis, Shirin Ghatrehsamani	Shirin Ghatrehsamani, University of Florida
2000127	Imaging Techniques for Chicken Products Detection	Lilong Chai, Beibei Jia, Yangyang Guo, Gregory Zock	Yangyang Guo, University of Georgia
2000167	Speaker Recognition after Model Pruning in Deep Learning	Wenjin Zong, Shuanglin Wang, Qibing Zhu, Min Huang, Ya Guo	Min Huang, Jiangnan University
2000191	Selection of Characteristic Wavebands to Minimize Soil Moisture Effects with In-Situ Soil Spectroscopy	Kenneth Sudduth, Kristen Veum, Minzan Li, Peng Zhou	Peng Zhou, China Agricultural University

2000219 Feral Cotton Habitat Prediction Model and Detection with UAV Remote Sensing	Tianyi Wang, Xiaohan Mei, Alex Thomasson, Xiongze Han, Pappu Yadav	Tianyi Wang, Texas A&M University
2000256 Design and Test of Automatic Steering System for Electric Vehicle Using LabVIEW	Liang Wang, Zhongxiang Zhu, Zhiqiang Zhai, Hao Wang	Liang Wang, China Agricultural University
2000287 Deep Learning-Based Path Detection in Citrus Orchard	Dae-Hyun Lee, Seung-Hoon Han, Kyeong-Min Kang, Rok-Yeun Hwang, Yong-Joo Kim, Chang-Hyun Choi	Dae-Hyun Lee, Chungnam National University
2000327 Application of Hyperspectral Reflectance Imaging and Chemometric Methods to Classify the Corn Seed Variety	Jun Zhang, Fang Cheng	Jun Zhang, Zhejiang University
2000361 Qualification of Soybean Responses to Flooding Stress Using UAV-Based Imagery	Huawei Mou, Jing Zhou, Jianfeng Zhou	Jianfeng Zhou, University of Missouri
2000402 A Detection System for Visualization of Spray Effect	Shenghui Yang, Yongjun Zheng, Pingfan Xu, Bingtai Chen, Shijie Jiang	Shenghui Yang, China Agricultural University
2000424 Predicting and Preventing the Occurrence of Switchgrass Flow Deviation in Screw Conveyor Applications Using Current Signature Analysis and Machine Learning	Yang Li, Nourredine Abdoulmoumine	Yang Li, University of Tennessee-Knoxville
2000455 A Deep Learning Approach for Wheat Area Estimation Based on Multi-Temporal Remote Sensing Data: A Case Study in Central China	Jinfan Xu, Yue Zhu, Tao Lin, Zhixian Lin	Zhixian Lin, Zhejiang University
2000460 Based on DSP and Winform, the Software Research of Online Monitoring System of Grain Loss Rate and the Construction of Cloud Platform Are Studied	Xin Nie, Ying Sun, Xiaotian Chen, Jianping Wang	Xin Nie, Zhejiang University
2000475 Construction of Monocular Distance Measurement Model for the Pomelo on tree Basing on Image Pixels	Zhou Dianzhuo, Huang Kang, Dai Ning, Rubel Rana, Liao Yitao, Liu Jie	Liu Jie, Huazhong Agricultural University
2000484 Research of Comparative Experiment on Aerial Spray and Air-Assisted Spray in Closed Type of Orchard	Bingtai Chen, Yongjun Zheng, Shenghui Yang, Hengtao Ma, Shijie Jiang	Shenghui Yang, China Agricultural University

2000487 Design of an Expandable Air-Assisted Spray Implement	Shijie Jiang, Yongjun Zheng, Shenghui Yang, Bingtai Chen, Hengtao Ma	Shenghui Yang, China Agricultural University
2000495 A New Spectral Pretreatment Method for Detecting Soluble Solids Content of Pears Using Vis/ NIR Spectroscopy	Long Li, Yankun Peng, Yongyu Li, Cheng Yang, Xin Qiao	Long Li, China Agricultural University
2000543 The Effect Analysis of Point Cloud Registration of Soybean Plant from Multiple Perspectives	Yueting Wang, Lihua Zheng, Minjuan Wang, Luhan Wang, Minzan Li	Lihua Zheng, China Agricultural University
2000555 Research on Pressure Regulation Performance of Electro-Hydraulic Control System of Planter in Field	Huijuan Bai, Shuai Li, Xueqian Fan, Kang Niu, Liming Zhou, Xianfa Fang, Decheng Wang, Jiao Xu	Jiao Xu, Beijing Institute of Graphic Communication
2000681 Static GNSS Accuracy Testing on an Unmanned Aircraft System	Michael Sama, Gabriel Abdulai, Joshua Jackson, Karla Ladino	Karla Ladino, University of Kentucky
2000693 Comparative Analysis of Rice Seed Viability Detection Based on Different Spectral Bands	Yali Wang, Yankun Peng, Xin Qiao, Qibin Zhuang	Yankun Peng, China Agricultural University
2000733 Modeling and Simulation of Front Axle Hydraulic Suspension for High-Power Wheeled Agricultural Tractor	Jinheng Gu, Zhen Li, Zhongxiang Zhu, Yuefeng Du, Changle Pang, Enrong Mao	Jinheng Gu, China Agricultural University
2000808 Development of a Novel Root Treatment Technique Using Systematic Fluorescent Compounds for Precision Weed Control	David Slaughter, Steven Fennimore, Wen-Hao Su	Wen-Hao Su, University of Minnesota
2000809 Evaluation of Photostability of Rhodamine B for Automatic Recognition of Tomato Plants	Wen-Hao Su, Steven A. Fennimore, David C. Slaughter	Wen-Hao Su, University of Minnesota
2000816 Evaluation of Mask RCNN for Learning to Detect Fusarium Head Blight in Wheat Images	Wen-Hao Su, Jiajing Zhang, Ce Yang, Rae Page, Tamas Szinyei, Cory D. Hirsch, Brian J. Steffenson	Wen-Hao Su, University of Minnesota
2000878 A UAV Platform for Mass Production of Control Crosses in Loblolly Pine	Kitt G. Payne, Sierra Young Piyush Pandey	Piyush Pandey, North Carolina State University
2000920 Temperature Profiling of Waterbodies with a UAV-Integrated Sensor Subsystem	Cengiz Koparan, Ali Bulent Koc	Ali Bulent Koc, Clemson University
2000931 Wall Effect on Acoustic Streaming Flow Field with Cavitation Bubbles	Xiaolong Wang, Hong Wei, Xiaoya Dong	Xiaolong Wang, Jiangsu University

2000943 Prediction of Soluble Solids Content During Storage of Apples with Different Maturity Based on VIS/NIR Spectroscopy	B. Zhang, M.S. Zhang, M.S. Shen, H. Li, H.H. Zhang, J. Zhao	Bo Zhang, Northwest A&F University
2001018 Open Source ImageJ Based Early Season Plant Stand Count and Distribution Evaluation using UAV Imagery	Igathinathane Cannayen, Harsh Pathak	Harsh Pathak, North Dakota State University
2001019 A Review of UAV Based Crop Stand Count and Weed Distribution of Row Crops	Igathinathane Cannayen, Harsh Pathak	Harsh Pathak, North Dakota State University
2001070 Per-field Growing Degree Day Accumulation Forecasting in Support of Data Assisted Logistic Planning	Dennis Buckmaster, James Krogmeier, Andrew Balmos	Andrew Balmos, Purdue University
2001206 A Robust Magnetic Relaxation Switch (MRSw) Aptasensor for the Reliable and Visual Sensing of Pseudomonas Aeruginosa in Food and Drinking Water	Fei Jia, Xingjian Bai, Xiaowei Zhang, Ruitong Dai, Jozef Kokini, Yanbin Li, Xingmin Li	Fei Jia, Zhejiang University
2001300 Wireless Passive Sensors for Temperature and Moisture Monitoring	Xiangfei Zhou, Logan Gang Liu, Angela Green-Miller, Wenyue Li	Wenyue Li, University of Illinois Urbana Champaign
2001345 Power-over-Tether UAS Leveraged for Nearly-Indefinite Meteorological Data Acquisition	Daniel A. Rico, Carrick Detweiler, Francisco Munoz-Arriola	Daniel A. Rico, University of Nebraska - Lincoln
2001476 Detection and Quantification of Aflatoxin in Red Chili Pepper using Fourier Transform Near Infrared Spectroscopy	Kumar Mallikarjunan, Ganapathy Shunmugam, Sasireka Rajendran	Sasireka Rajendran, Department of Food Process Engineering, Tamil Nadu Agricultural University
2001480 Development of a Rapid and Inexpensive Imaging Techniques for Microalgae Culture Quantification	Cannayen Igathinathane, Halis Simsek, Shajahan Sunoj, Ademola Hammed	Ademola Hammed, North Dakota State University
2001497 TV White Space: Bridging Internet to Field in Rural Area	Leon Schumacher, Jianfeng Zhou	Leon Schumacher, University of Missouri
2001555 Monitoring of Cheese Maturation using Near Infrared-Hyperspectral Imaging (NIR-HIS)	Renxi Kang, Ming Zhao, Colette C. Fagan, Lisa Methven, Marie J. Oruna-Concha, Colm P. O'Donnell	Renxi Kang, School of Biosystems and Food Engineering, University College Dublin

Live Q&A via Zoom: Tuesday 7/14 at 1:30 – 3:00 PM

ID #	Session Title	Session Authors	Presenting Author
2000022	Spray Performance Evaluation of a Fixed-Pipes Twin Fluid Cold Fogging System in Greenhouse	Shilin Wang, Lu Daipeng, L.V. Xiaolan, Xue Li	Shilin Wang, Jiangsu Academy of Agricultural Science
2000045	Influence of Tank Mix Adjuvants on Spray Drift in Wind Tunnel	Shilin Wang, Xue Li, Hao Zhou, Daoquan Fan, Xiaolan Lv	Shilin Wang, Institute of Agricultural Facilities and Equipment, Jiangsu Academy of Agricultural Science
2000053	Design of Self-Propelled Inverted-Umbrella Type Fruit Collecting Machine	Zhaojie Zhang, Jianjun Zhao, Yin Qian, Tengfei Shen, Xiaoqiang Du, Guofeng Zhang, Anguo Hu	Tengfei Shen, Zhejiang Sci-Tech University
2000063	Design of Oil-Tea Camellia Fruit Harvesting Machine with Varying Space Comb-Brush	Tengfei Shen, Xiaoqiang Du, Guofeng Zhang, Anguo Hu, Yongqing Cao, Xiaohua Yao	Tengfei Shen, Zhejiang Sci-Tech University
2000076	Dynamic Simulation Analysis and Modal Experiment of Camellia Oleifera Tree	Yin Qian, Jianjun Zhao, Tengfei Shen, Xiaoqiang Du, Guofeng Zhang, Anguo Hu, Xiaohua Yao	Tengfei Shen, Zhejiang Sci-Tech University
2000088	Develop an Automated System for Elderberry Handling	Andrew Thomas, Jianfeng Zhou	Jianfeng Zhou, University of Missouri
2000254	Development of Electric Self-Propelled Tipster	Ma Juan, Feng Bin, Guo Lei, Li Hao, Jin Nan, Hongying Wang	Hongying Wang, China Agricultural University
2000293	Development and Experiments of the Collision Tester for the Evaluation of Rape Pod	Yiren Qing, Yaoming Li, Zheng Ma	Yiren Qing, Jiangsu University
2000316	A Fast Design System for Corn Ear Harvester-Header Based on Knowledge Engineering	Jianjian Tai, Haitao Li, Yuefeng Du, Enrong Mao, Junnan Zhang, Xinjiani Long	Jianjian Tai, China Agricultural University
2000334	Evaluation of Two-Wheel Tractor Attached Seeders Used in Conservation Agriculture Systems of Ethiopia	B.G. Awoke, F. Baudron, D.L. Antille, L. Kebede, D.A. Anawte, D.B. Tikuneh, K.A. Aikins, A.L. Diogenes	Diogenes L. Antille, CSIRO Agriculture and Food
2000336	Relationship between Friability, Water Content and Plastic Limit in Sugarcane Soils of Southwestern Colombia	E.A. Avila Pedraza, R. Madriñán Molina, E. Darghan Contreras, G.F. Botta, E.E. Contessotto, A. Ezquerro Canalejo, D. Rivero, F. Bienvenido, D.L. Antille	Diogenes L. Antille, CSIRO Agriculture and Food

2000394 Simulation Analysis on the Performance of Splitting and Picking Devices of Corn Harvester	Jianjian Tai, Haitao Li, Yuefeng Du, Enrong Mao, Yunyi Guan, Xinjiani Long	Jianjian Tai, China Agricultural University
2000408 A Binocular Stereo Vision System of Fruits Picking Robots Based on Embedded System	Pengcheng Wang, Zenghong Ma, Xiaoqiang Du, Wenwu Lu, Wensong Xing, Fan Du, Chuanyu Wu	Xiaoqiang Du, Zhejiang Sci-Tech University
2000474 Measurement and Analysis of Pomelo Stem Mechanical Properties	Kang Huang, Dianzhuo Zhou, Ning Dai, R ubel Rana, Jie Liu	Jie Liu, Huazhong Agricultural University
2000491 Safflower Production Management ECOSYTEM with AI Harvester	Shigeru Ichiura, Hideyuki Yoshihiro, Kazuya Sato, Ryoji Onodera, Mitsuhiro Katahira	Shigeru Ichura, Iwate University
2000660 Development of An Open-Source Optical Sensor System for Detection of Herbicide Spray Drift	Wei Ma, Daniel Fisher, Yanbo Huang	Yanbo Huang, USDA-ARS
2000752 Creating a Field-Wide Forage Canopy Model Using UAVs and Photogrammetry Processing	Cameron Minch, Joseph Dvorak, Joshua Jackson, Tucker Sheffield	Tucker Sheffield, University of Kentucky
2000759 Robotic Harvesting of Mango	Rajendra Machavaram, Abhishek Ranjan	Abhishek Ranjan, Indian Institute of Technology-Kharagpur
2000835 Experimental Study on Tensile Properties of Sugarcane Leaves	Jing Bai, Shaochun Ma, Fenglei Wang, Haonan Xing, Jiwei Hu, Yi Wei	Shaochun Ma, China Agricultural University
2000857 Sugarcane Basecutters: A Technology Review	Fenglei Wang, Shaochun Ma, Haonan Xing, Jing Bai, Yezhen Yang, Jiwei Hu, Yi Wei	Haonan Xing, China Agricultural University
2000864 Study on the Extrusion Characteristics of Hydroponic Lettuce for Nondestructive Packaging	Wenqi Wang, Xiangyu Guan, Longsheng Fu, Can Xu, Yidong Ma, Rui Li ,Yongjie Cui	Xiangyu Guan, Northwest A&F University
2000877 Combination of Steam Application and Different Amount of Post-Emergent Herbicide (Paraquat) to Control Goatweed	Jaafar Abdulridha, Yiannis Ampatzidis, Ramdas Kanissery	Jaafar Abdulridha, Southwest Florida Research and Education Center
2000890 Angle and Speed Determination of Slide Rail to Convey Hydroponic Lettuce for Robotic Harvesting	Wenqi Wang, Yidong Ma, Zhenzhen Song, Yingtao Qu, Rui Li, Yongjie Cui, Longsheng Fu	Yingtao Qu, Northwest A&F University
2000906 Evaluation of Three Swather Crimper Systems	Jesse Mathews, Rhonda Miller, Bruce Miller	Rhonda Miller, Utah State University

2000951 An Automatic Harvesting System for Hydroponic Lettuce	Yidong Ma, Can Xu, Xinyu Zhang, Kai Li, Longsheng Fu, Yongjie Cui	Kai Li, Northwest A&F University
2000955 Effect of Root-Cutting Lengths on Preservation Performance and a Root-Cutting Machine Development for Hydroponic Lettuce	Minghui Wang, Hao Mo, Yidong Ma, Kai Li, Longsheng Fu, Yongjie Cui	Kai Li, College of Mechanical & Electronic Engineering, Northwest A&F University
2000972 Design and Research of an Integrated Operation Machine for Straw Reactor	Wang Zehe, Zhang Xiuhua, Yi Jinggang, Kong Degang, Yuan Yongwei, Ma Mengqi, Ma Junyuan, Zhang Jinguo	Yi Jinggang, Hebei Agricultural University
2000987 Preliminary Testing of a High-Throughput Soil Sampling System	Shawn T. O'Neal, Michael P. Sama, Michael D. Montross, Ole O. Wendroth	Shawn O'Neal, University of Kentucky
2001256 Yield Recovery Effects of Autosteering in Peanut Digging	Loren A. Samenko, Kendall R. Kirk, Aaron P. Turner, Benjamin B. Fogle	Loren A. Samenko, Clemson University
2001327 Measurement and Study of Mechanical Characteristics of Hydroponic Lettuce	Wenqi Wang, Xiangyu Guan, Longsheng Fu, Hao Mo, Yidong Ma, Rui Li, Yongjie Cui	Xiangyu Guan, College of Mechanical & Electronic Engineering, Northwest A&F University
2001343 Measurement and Analysis of Physical Parameters of Hydroponic Lettuce	Wenqi Wang, Yingtao Qu, Longsheng Fu, Hao Mo, Yidong Ma, Rui Li, Yongjie Cui	Yingtao Qu, Northwest A&F University
2001357 Off-highway Vehicle Chassis Dynamometer Testing at Iowa State University	Stuart Birrell, Steve Mickelson, Brian Steward	Brian Steward, Iowa State University
2001375 Design and Evaluation of a Band-Steam Applicator for Controlling Soilborne Pathogens and Weeds in Lettuce	Nicholas Bahr, Victor Godinez Jr., Steven Fennimore, Mark Siemens	Mark Siemens, University of Arizona
2001428 NEVONEX - impact Assessment of a Smart, Neutral, Open and Quality Controlled Framework for End-to-End Infrastructure for Agricultural Machinery Data	Heinz Bernhardt, Maximilian Treiber	Maximilian Treiber, Technical University of Munich, Agricultural Systems Engineering
2001429 Technological Implementation of Electric Drive and Robotics in a Self-Propelled TMR Feed Mixer	Matthias Reger, Maximilian Treiber, Annika Reich, Andreas Krautenbacher, Philipp Twickler, Jörn Stumpfenhausen, Heinz Bernhardt	Heinz Bernhardt, Technical University of Munich

2001578 Development of an Embedded Controller for Standalone Nitrogen Rate Recommendations using Active Crop Canopy Sensors

Samantha Teten, Santosh Pitla

Joe Luck, Univeristy of Nebraska-Lincoln

NRES-Natural Resources & Environmental Systems

Live Q&A via Zoom: Monday 7/13 at 1:00 – 3:00 PM

ID #	Session Title	Session Authors	Presenting Author
2000024	Impact of Delay in Water Sample Filtering on Dissolved Reactive Phosphorous Concentration and Load	Alexandria Seybold, Ehsan Ghane, Jason Piwarski	Alexandria Seybold, Michigan State University
2000027	Anaerobic Co-Digestion of Animal Wastewater and Agricultural Residue	Megan Boland, Jay Cheng	Megan Boland, North Carolina State University
2000035	Comparing Uniform and Variable Spacing When Conducting Catch Can Uniformity Tests on Sprinkler Nozzle Equipped Irrigation Pivots	Jake L. Richardson, Derek M. Heeren, Alan L. Boldt, Dean E. Eisenhauer	Alan Boldt, University of Nebraska-Lincoln
2000077	Analyzing Operating Pressure and Application Uniformity of Center Pivot Irrigation Systems	Eric Wilkening, Derek M. Heeren, Troy Ingram, Steven R. Melvin, Aaron Nygren, Derrel L. Martin, Daran R. Rudnick, Chuck Burr, Mitiku Mamo	Eric Wilkening, University of Nebraska-Lincoln
2000102	Using NDVI for Variable Rate Cotton Irrigation Prescriptions	Phil Bauer, Kenneth Stone	Kenneth Stone, USDA-ARS
2000104	Impact of Red Cedar Encroachment and Climate Change on Recharge and Streamflow in the Nebraska Sandhills	Aaron Mittelstet, Troy Gilmore, Erin Haacker, Dirac Twidwell Jr, Tiffany Messer, Yaser Kishawi	Yaser Kishawi, University of Nebraska-Lincoln
2000115	Scaled Technoeconomic Analysis of Woodchip Bioreactors in Iowa	Lindsey Hartfiel, Michelle Soupir, Kurt Rosentrater	Lindsey Hartfiel, Iowa State University
2000118	Crafting an Irrigation Sustainability Framework in the Northern High Plains (USA) Using Stakeholders' Opinions	Luciano Alves de Oliveira, Francisco Munoz-Arriola, Derrel Martin, and Craig Allen	Luciano Alves de Oliveira, University of Nebraska-Lincoln
2000157	Subsurface Drainage Flow Fluctuations Impact Denitrifying Bioreactor Hydraulic Conductivity	Gabriel Johnson, Richard Cooke, Reid Christianson, Laura Christianson	Gabriel M. Johnson, University of Illinois Urbana-Champaign

2000194 Modeling the Impact of Winter Cover Crop on Corn-Soybean and Soil Nitrogen Dynamics Using DSSAT Model	Rishabh Gupta, Rabin Bhattarai, Jonathan W. Coppess, Richard T. Roth, Shalamar D. Armstrong	Rishabh Gupta, University of Illinois Urbana-Champaign
2000326 Glasshouse Study of the Value of Biosolids-Derived Organomineral Fertilizers for Perennial Ryegrass Growth	Diogenes L. Antille, Bernadette K. McCabe, Serhiy Marchuk, Jochen Eberhard, Craig P. Baillie	Diogenes L. Antille, CSIRO Agriculture and Food
2000377 Physical and Hydraulic Soil Properties under Soil Health Practices	John McMaine, Ajoy Kumar Saha	Ajoy Kumar Saha, South Dakota State University
2000385 Scale Effect on the Hydraulic and Treatment Performance of Free Surface Flow Constructed Wetlands	Changqiang Guo, Yuanlai Cui, Di Wan, Fangping Liu	Changqiang Guo, Zhejiang-University
2000416 Monitoring Green Infrastructure at Trailwoods Neighborhood in Norman, Oklahoma	Jason Vogel, Grant Graves, Emily Rhodes	Emily Rhodes, University of Oklahoma
2000419 Investigation of Soil Wetting Pattern in Drip Irrigation Using LoraWAN Technology	Long He, Jin Tong, Xiaohu Jiang	Xiaohu Jiang, Pennsylvania State University
2000421 Impacts of Climate Change on Bioenergy Crops Production in the Republican River Basin	Mohammad Anar, Haochi Zheng, Zhulu Lin	Zhulu Lin, North Dakota State University
2000422 Water and Nutrient Recycling: A Decision Tool and Best Practices Evaluation	Andrew Herring, Julie Renner, Sudharsan Varma Vempalli, Lauren Greenlee, Greg Thoma, Kristofor Bbye, Jennie Popp, Rick Stowell, Amber Patterson, Joseph Zulovich, Teng Lim, Tim Canter	Tim Canter, University of Missouri-Columbia
2000451 Modeling Groundwater Transit Time Distributions in the Upper Middle Loup River Basin, Nebraska, USA	Caner Zeyrek, Troy Gilmore, Aaron Mittelstet, Kip Solomon, David Genereux, Eric Humphrey, Craig Jensen	Caner Zeyrek, University of Nebraska-Lincoln
2000552 Evaluation and Performance of Different Irrigation Scheduling Methods and Their Impact on Corn Production and Nitrate Leaching in Central Minnesota	Vasudha Sharma, Gurparteet Singh, David Mulla, Muhammad Tahir, Fabian Fernandez	Gurparteet Singh, University of Minnesota
2000557 Biomass Production and Nitrification in an Algal-Bacterial Wastewater Treatment System	Qichen Wang, Brendan Higgins	Qichen Wang, Auburn University

2000577 Interactions between Agricultural Pesticides and Fertilizers in Aqueous Solutions	Leyton J. Brown, Paul C. Davidson	Leyton J. Brown, University of Illinois
2000584 Field-Scale Aboveground Swine Burial	Morghan Hurst, John McMaine, Bob Thaler	Morghan Hurst, South Dakota State University
2000601 Understanding Channel Erosion Processes to Inform Streambank Stabilization Design	K. Bigham, T. Keane, T. Moore.	Kari A. Bigham, Kansas State University
2000606 Evaluate the Effect of BMPs on Hydrology and Water Quality at Field and Watershed Scale	Prem B. Parajuli, Avay Risal	Avay Risal, Mississippi State University
2000649 In-Stream Nutrient Comparison at Upstream and Downstream of a Catchment with High Best Management Practices Implementation	Areba Syed, Michelle Soupier, Jason Palmer, Jennifer Kurth, Ji Yeow Law	Ji Yeow Law, Iowa State University
2000667 Impact Assessment of Land Use Change for Soil and Water Quality In Food-Desert Dominated Parcels In North Carolina	Yen Doan, Manoj Jha, Lyubov Kurkalova, Leila Hashemi Beni, Chyi Lyi Liang, Haoran Miao, Timothy Mulrooney, Gregory Monty	Manoj Jha, North Carolina A&T State University
2000668 D50 Based Analysis of Streambed Stability and Degradation	Dawit Asamen, Manoj Jha, Niroj Aryal, Peter Allen, Mike White, Jeff Arnold	Manoj Jha, North Carolina A&T State University
2000672 Modeling Palouse Hills to Quantify Moisture Redistribution from the Selective Non-Uniform Application of Biochar	Adam Okeffe, Dev Shrestha	Dev Shrestha, University of Idaho
2000685 Thermophilic Anaerobic Digestion Enhanced by Magnesium Doped Biochar	Lijun Wang, Bo Zhang	Lijun Wang, North Carolina Agricultural and Technical State University
2000754 LCA and TEA of Conventional- Versus Local- Production of Vegetables for US Midwest Cities	Janette Thompson, Kurt Rosentrater, Tiffanie Stone	Tiffanie Stone, Iowa State University
2000767 Modeling Postharvest Quality of Grapefruit as Affected by Irrigation	Gerrit Hoogenboom, Juan Gabriel Perez-Perez, Congmu Zhang	Congmu Zhang, University of Florida
2000768 Evaluating the Biotic Condition of Restored Streams in Kentucky's Inner Bluegrass Region	Cole Crankshaw, Carmen Agouridis, Bill Ford, Chris Barton	Carmen Agouridis, University of Kentucky
2000769 Recreating a Hyporheic Zone in an Urban Stream	Carmen Agouridis, Jonathan Brantley, Ole Wendroth, Bill Ford	Carmen Agouridis, University of Kentucky

2000794	Neonicotinoid Pesticide and Nutrient Removal in Floating Treatment Wetland Mesocosms	Julia Lindgren, Tiffany L. Messer	Julia Lindgren, University of Nebraska-Lincoln
2000799	The Effect of Different Moisture Content Super Absorbent Polymer on Water Retention of a Silt Loam Soil	Toby Adjuik, Ole Wendroth, Michael Sama	Toby Adjuik, University of Kentucky
2000802	3-D Printed Flumes for Measurement of Storm Flows	John McMaine, Alex McLemore, Farhana Akhter	Farhana Akhter, South Dakota State University
2000805	Comparison of RZWQM2-P and ICECREAM in Simulating Phosphorus (P) Losses from a Subsurface Drained Agricultural Field	Debasis Sadhukhan, Zhiming Qi	Debasis Sadhukhan, McGill University
2000806	Determination of Optimum Cut-off Time by Infiltration Data and SIRMOD Model in Short Block-End Furrows	Babak Dialameh, Seyed Hamid Ahmadi	Babak Dialameh, Michigan State University
2000815	Simulating the Connection between Soil Health and Phosphorus Loading in the Western Lake Erie Basin	Margaret Kalcic, Grey Evenson, Vinayak Shedekar, Kevin King, William Osterholz	Margaret Kalcic, The Ohio State University
2000821	Uniform Irrigation Management Using Spatial Evapotranspiration Model in Nebraska	Sandeep Bhatti, Ivo Zution Goncalves, Christopher Neale, Derek Heeren	Sandeep Bhatti, University of Nebraska-Lincoln
2000823	Benchtop Testing and Field Monitoring of Nutrient Leaching from Compost Filter Socks	Jessica Shepard, Jason Vogel, Adella Kuster, Madeline Wade, Grant Graves	Jessica Shepard, University of Oklahoma
2000837	Effects of Fertilizer Application Rates for Key Growing Stages on Maize Growth and Yield in Sub-Humid Northeast China	Xiaodong Bo, Jiusheng Li, Yanfeng Li, Jun Wang	Jun Wang, China Institute of Water Resources and Hydropower Research
2000880	The Threshold of Soil Salinity and Nitrogen Content for Cotton under Mulched Drip Irrigation in the Northwest Arid Region of China	Zheng Che, Jun Wang, Jiusheng Li, Yanfeng Li	Jun Wang, China Institute of Water Resources and Hydropower Research
2000901	Effects of Organic Amendments on Evaporation Characteristics of Drying Soils	Haimanote K. Bayabila, Jian Zhang, Yuncong Li, Fitsum T. Teshome	Haimanote Bayabil, University of Florida/Tropical Research and Education Center
2000913	Water-Energy Linkage in Smallholder Shared Center Pivot Irrigation: A Case Study in Rwanda	Ankit Chandra, Nick Brozovic, Lameck Odhiambo, Derek Heeren	Ankit Chandra, University of Nebraska-Lincoln

2000999	Dynamics of Phosphorus Transport from a Subsurface-drained Field Based on a Two-Hour Sampling Interval	Ehsan Ghane, Manal Askar, Sami Shokrana, Yousef Abdalaal, Jason Piwarski	Jason Piwarski, Michigan State University
2001009	Upgrading Food Waste-Derived Biogas by Deep Eutectic Solvents	Kyle McGaughy, M. Toufiq Reza	Toufiq Reza, Florida Institute of Technology
2001020	Predicting Runoff-Driven Estuarine Nutrient Loading at Large Spatial Scales using a Parsimonious Model	Natalie Nelson, Lise Montefiore	Lise Montefiore, North Carolina State University
2001029	Sediment Discharge Estimation in the Upper Mississippi River Basin using Landsat Imageries	Jonathan Flores, Joan Wu, Claudio Stöckle, Xiao Yang	Jonathan Flores, Washington State University
2001031	Implementing Process-Based Modeling Framework for understanding Cyanobacteria Dynamics using Various Environmental Factors	Md Atiqul Islam, Yan Zhou, Aleksey Y. Sheshukov	Md Atiqul Islam, Kansas State University
2001036	Regional Groundwater Resource Modelling using Modflow in West Godavari District	Uday Bhanu Prakash Vaddevolu, Sasikala. D, Rema K P	Uday Bhanu Prakash Vaddevolu, North Dakota State University
2001058	Potential Dryland Cotton Yield Increases from Management of Selected Soil Physical and Chemical Properties associated with Soil Health	Srinivasulu Ale, Sushil K. Himanshu, Steven A. Mauget, Darren Hudson, Tim S. Goebel, Bing Liu, R. Louis Baumhardt, James P. Bordovsky, David K. Brauer, Robert J. Lascano, Dennis C. Gitz III	Srinivasulu Ale, Texas A&M AgriLife Research
2001061	Evaluation of 2-D Hydrodynamic Models to Improve Scour Predictions and Countermeasures	Celso Castro-Bolinaga, Chadi Sayde, Rebecca Hatley	Rebecca Hatley, North Carolina State University
2001069	High Resolution Assessment of Miscanthus Production Environmental Impacts	Chadi Sayde, Sierra Young, Andrew Hillman	Andrew Hillman, North Carolina State University
2001098	Degradation of Co-Mingled Cedar Wood Chips and Livestock Manure and its Impact on Soil Health	Amy Schmidt, Agustin Olivo, Linda Schott, Eric Henning	Eric Henning, University of Nebraska-Lincoln
2001110	Coupling SWAT and ANN Model for Flow Measurement in a Coastal Watershed	Anna Linhoss, Pawan Upadhyay	Pawan Upadhyay, Mississippi State University

2001132 Nitrogen and Phosphorus Seasonal Loading during the Calibration Period of a Paired-Watershed Study to Investigate the Performance of Saturated Buffers	Ehsan Ghane, Manal Askar, Sami Shokrana, Jason Piwarski, Yousef Abdalaal	Yousef Abdalaal, Michigan State University
2001144 Urban Stormwater Treatment: Reduced Sizing for Suspended Pavement Systems in Compact Soils	Sarah Waickowski, William F. Hunt, Amethyst Kelly	Amethyst Kelly, North Carolina State University
2001151 Measuring Water Flux Density - Implementing Pulse Heated Fiber Optics to Uncover Flow Paths & Treatment Volumes of Regenerative Storm Water Conveyance Systems	Chadi Sayde, Barbara Doll, Tom DeBell	Tom DeBell, North Carolina State University
2001159 Novel Low-Cost Weighing Lysimeter to Monitor Crop Water Use and Deep Percolation	Ryan Ackett, Chadi Sayde	Ryan Ackett, North Carolina State University
2001162 Legacy Phosphorus Accumulation in the Watershed of Wisconsin's Deepest Lake	Rachel Johnson, Anita Thompson	Rachel Johnson, University of Wisconsin-Madison
2001169 Quantification and Mapping of Surface Energy Balance Fluxes using METRIC Algorithm in the Semi-Arid to Arid Region of Wyoming	Bibek Acharya, Vivek Sharma	Bibek Acharya, University of Wyoming
2001176 Using the Soil and Water Assessment Tool (SWAT) to Simulate Urban and Suburban Watersheds	Zeshu Zhang, Hubert Montas, Adel Shirmohammadi, Paul Leisnham, Masoud Negahban-Azar	Zeshu Zhang, Fischell Department of Bioengineering, University of Maryland
2001178 Reuse Potential of Mixed Industrial and Domestic Wastewater for Agricultural Irrigation	Precious Egbuikwem, Devendra Saroj	Precious Egbuikwem, University of Surrey
2001213 Comparative Validation of UAV-Collected Cotton Phenological Dataset with Manual Measurements under Different Irrigation Treatments	Sayantana Samantaa, Anjin Chang, JungJin Kim, Srinivasulu Ale, James Bordovsky, Jinha Jung, Edward Barnes, Sushil Himanshu	Sayantana Samanta, Texas A&M University
2001251 Development of Reservoir Operation and Water Allocation Model for Optimal Operating Policy using Machine Learning Techniques and Climate Phenomenon Information	Won-Ho Nam, Taegon Kim	Won-Ho Nam, Hankyong National University

2001260	Variable Rate Nitrogen Fertigation using NDVI Crop Sensors Integrated with a Lateral Move Irrigation System	Stewart Bell, Bulent Koc, Joe M. Maja, Jose Payero, Michael Marshall, Ahmad Khalilian	Stewart Bell, Clemson University
2001261	Stressed Aquifers in the Coastal Plain of Maryland due to Population Dynamics and Climate Change	Adel Shirmohammadi, Masoud Negahban-Azar, Hubert Montas, Paul Leisnham	Adel Shirmohammadi, University of Maryland
2001296	Modeling the Fate and Transport of Antibiotic Resistance Genes in Agricultural Soils: From Manure to Groundwater	Renys E. Barrios, Shannon L. Bartelt-Hunt, Noelle A. Mware, Yusong Li, Xu Li	Noelle Mware, University of Nebraska-Lincoln
2001298	Physical Characterization of Swine CAFO Lagoon Sludge for Modeling Purposes and Risk Assessment	John Classen, Christopher Hopkins, Mahmoud Sharara, Celso Castro-Bolinaga, Jacqueline Welles	Jacqueline Welles, North Carolina State University
2001367	Missing Value Estimation Method for Subsurface Drain Flow	Giorgi Chighladze, Benjamin Reinhart, Lori Abendroth, Matt Helmers, Laura Bowling, Jane Frankenberger	Giorgi Chighladze, Iowa State University
2001386	Supplemental Irrigation of Waterleaf Crop in a Sub-Saharan Tropical Region	Gregory Obiechefu, Kodak Emerson	Gregory Obiechefu, IMO State Polytechnic
2001392	The Potential Resiliency of a Created Tidal Marsh to Sea Level Rise	Michael Burchell, Brock Kamrath	Brock Kamrath, North Carolina State University
2001407	Impacts of Climate Change on Natural and Managed Wetland Watersheds in the Western Everglades	Younggu Her, Yogesh Khare, Satbyeol Shin	Satbyeol Shin, University of Florida
2001416	Using X-ray Computed Tomography to Quantify Soil Macropore Characteristics	Jasmeet Lamba, Puneet Srivastava, Kritika Malhotra, Sheela Katuwal, Tom Way, Suman Budhathoki	Suman Budhathoki, Auburn University
2001426	A Low-Cost Stem Water Potential Monitoring Method using Proximate Sensor and Scikit-Learn Classification Algorithms	Haoyu Niu, Tiebiao Zhao, Cameron Zuber, Jacqueline Vasquez-Mendoza, David Doll, Kari Arnold, YangQuan Chen	Haoyu Niu, University of California Merced
2001455	Co-Pelletization of Dairy Manure Compost and Fishmeal	Gilbert Miito, Lisa DeVetter, Haiying Tao, Pius Ndegwa, Femi Alege	Femi Peter Alege, Washington State University
2001500	A New Grading System for Evaluating China's Cultivated Land Quality	De Zhou, Liming Liu, Xiao Chang, Zhulu Lin	Zhulu Lin, North Dakota State University
2001504	Evaluating The Water Quality and Hydrological Performance Of Two Proprietary Stormwater Control Measures In North Carolina	Jeffrey Johnson, Caleb Mitchell, Shawn Kennedy, William Hunt, Duwane Thomas	Duwane Thomas, North Carolina State University

2001508	Three Dimensional Lake Water Quality Analysis: A Case Study on Lake Mitchell	Rachel McDaniel, John McMaine, Bruce Bleakley, Sumit Kumar Ghosh	Sumit Kumar Ghosh, South Dakota State University
2001521	Measuring the Rice Fields Area in Lenjanat County in order to determine the Required Irrigation Water, Using RS and GIS Techniques	Farhad Mokhtari, Zohreh Khorsandi, Farzaneh Khorsandi	Farzaneh Khorsandi, University of California-Davis
2001537	Water Use and Water Use Efficiency of Crops from Intensified Rotation Practices in Rainfed Agroecosystems	Shuhui Liu, Hannah Rusch, Gregg Johnson, Jeffrey Strock, Axel Garcia y Garcia	Axel Garcia y Garcia, Department of Agronomy and Plant Genetics, University of Minnesota
2001538	Irrigation May Boost Maize Productivity in Mato Grosso State, Brazil	Tulio Gonçalves dos Santos, Ricardo Santos Silva Amorim, Daniel Carneiro de Abreu, Axel Garcia y Garcia	Axel Garcia y Garcia, Department of Agronomy and Plant Genetics, University of Minnesota
2001562	Managing Nutrients and Pathogens in Agricultural Drainage using Ecological Treatment Technologies	Natasha Bell	Natasha Bell, East Carolina University
2001571	Understanding the Causal Relationships Among Land Cover Changes, Anthropogenic Activities and Weather Patterns using Remote Sensing	Sirapoom Peanusaha, Jasmeet Judge, Rachata Muneeppeerakul, George Worrall, Aditya Singh	Sirapoom Peanusaha, Univeristy of Florida
2001598	Awareness and Adoption of Circular Economy Practices in South Africa: An Analysis of its Possible Implications on Agri-Food Waste Management	Kurt Rosentrater, Israel Dunmade	Israel Dunmade, Mount Royal University

PAFS-Plant, Animal & Facilities

Live Q&A via Zoom: Tuesday 7/13 at 3:00 – 4:00 PM

ID #	Session Title	Session Authors	Presenting Author
2000037	A Review of Applied Methods for Treating HLB-Affected Tree	Shirin Ghatrehsamani	Shirin Ghatrehsamani, University of Florida
2000179	Effect of Low-Energy and Low-Protein Diets on Layers in Rearing Period	Chao Zong, Xuming Liu, Zhiping Zhu, Zhuo Li	Kaidong Lei, China Agricultural University
2000184	Nine Decades of Scientific Research on Air Pollution Related to Food Animal Health and Welfare	Ji-Qin Ni, Marisa A. Erasmus, Chunmei Li, Yansen Li	Ji-Qin Ni
2000216	The Study of Urine Hormone Index Based on Estrus Mechanism of Sows	K. D. Lei, G. H.Teng, C. Zong , Z. Li	K. D. Lei, China Agricultural University

2000248	Research Progress of Manure Cleaning Equipment for Meat Rabbit	Chen Yuanyuan, Wang Hongying, Duan Enze	Wang Hongying, China Agricultural University
2000258	Nitrous Oxide Emissions from Incorporated and Surface-Applied Dairy and Beef Cattle Manure - A Laboratory Study	Zachary Kasuske, Bridgette Hiltbrunner, David Parker, Ken Casey, Jim Rogers, Nick Flynn, Byeng Min, Will Willis	David Parker, USDA-ARS
2000482	Greenhouse Layout Configuration for Safe and Rapid Robot Navigation	Seungmin Woo, Yunsu Kim, Yeongsu Kim, Junhee Kim, Seokho Kang, Tusan Park, Rammohan Mallipeddi, Yushin Ha, Daniel Dooyum Uyeh	Daniel Dooyum Uyeh, Kyungpook National University
2000525	Greenhouse Gas Emissions and Energy Balance in Energy Self-Sufficient Dairy Cowsheds-CowEnergy	Omar Hijazi, Martin Höhendinger, Jörn Stumpfenhausen , Heinz Bernhardt	Heinz Bernhardt, Technical University of Munich
2000736	Validation of an Autonomous Radio-Frequency Identification Controlled Soaking System for Dairy Cattle	Gustavo Mazon, Patrick Montgomery, Morgan Hayes, Joshua Jackson, Joao H. C. Costa	Joshua Jackson, University of Kentucky
2000788	CFD Simulation for Understanding the Effects of Wind Direction and Surroundings on Airflow and Air Exchange Rate of a Naturally Ventilated Dairy Building	Chayan Kumer Saha, David Janke, Qianying Yi, Sabrina Hempel, Thomas Amon,	Chayan Kumer Saha, Bangladesh Agricultural University
2000797	Real-Time Localization System for Livestock Dairy Cattle: Validation of Static Positioning in a Commercial Facility	Emily Rice, Jessica Ferrell, Eric Vanzant, Joshua Jackson, Joao Costa	Emily Rice, University of Kentucky
2000863	Mitigation of Odorous Emissions from Swine Manure with Biochar	Zhanibek Meiirkhanuly, Jacek Koziel, Andrzej Bialowiec, Chumki Banik, Baitong Chen, Myeongseong Lee, Jisoo Wi, Robert Brown, Santanu Bakshi	Jacek Koziel, Iowa State University
2001025	Dynamic Analysis of Cardiorespiratory Responses to Variations in Physical Activity	Pooja Shukla, Mark Shiner, Yuji Oba, Jinglu Tan	Pooja Shukla, University of Missouri
2001044	Accurate and Rapid Assessment of Pig Body Weights Using Stereo Vision and Advanced Image Processing	Anh Nguyen, Victoria Abner, Mark Knauer, Sierra Young, Jonathan Holt	Anh Nguyen, North Carolina State University
2001056	Opportunities For Advancing Sweetpotato Modeling For Improved Prediction And Management	Mariella Carbajal, Michael Boyette, Natalie Nelson	Mariella Carbajal, North Carolina State University

2001185	Estimating Cattle Size Using Unmanned Aircraft Systems and Photogrammetry	Felipe Pampolini, Michael Sama, Joshua Jackson, Ruigang Yang, Jesse Hoagg	Michael Sama, University of Kentucky
2001462	Water Holding Capacity and Evaporative Loss from Poultry Litter and Biochar Mixtures	John Linhoss, Matthew Rowland	Matthew R. Rowland, Mississippi State University
2001550	Enhancing the Cooling Effectiveness of a Fan-And-Pad Evaporative Cooling System in Humid Climates Using a Liquid Desiccant System	Waleed Bin Masoud, Ray Bucklin, Wendell Porter, Xin Zhao, Herbert Ingley, Melanie Correll	Waleed Bin Masoud, University of Florida

PRS-Processing Systems

Live Q&A via Zoom: Tuesday 7/14 at 3:00 – 5:00 PM

ID #	Session Title	Session Authors	Presenting Author
2000031	Study of a Novel Co-Culturing Fermentation for Bacterial Cellulose Nanocomposite Production	Hetian Hu, Jeffrey M. Catchmark, Ali Demirci	Hetian Hu, Pennsylvania State University
2000032	Bacterial and Fungal Strain Selections for Cellulase and Xylanase Production Using Distillers' Dried Grains with Solubles (DDGS)	Attia Iram, Deniz Cekmecelioglu, Ali Demirci	Attia Iram, Pennsylvania State University
2000144	Continuous Succinic Acid Production by Actinobacillus Succinogenes in a Hollow Fiber Membrane Packed-Bed Biofilm Reactor	Dianna Long, Cheryl Immethun, Rajib Saha, Mark Wilkins, Lisbeth Vallecilla Yopez	Lisbeth Vallecilla Yopez, University of Nebraska-Lincoln
2000153	Fate of Nutrients of Interest During Direct Sun-Drying of Apricots	Rebecca R. Milczarek, Carl Olsen	Carl W. Olsen, USDA-ARS
2000201	The Interest in Different Types of Starch Stems from Their Potential Use in Various Food Applications	Olufemi Adeyemi Adetola, Ayoola Patrick Olalusi, Akinbode Adedeji	Akinbode A. Adedeji, University of Kentucky
2000202	The Inclusion of Local Cassava Cultivars as a Composite Flour in the Production of Major Staple Foods	Olufemi Adeyemi Adetola, Ayoola Patrick Olalusi, Akinbode Adedeji	Akinbode A. Adedeji, University of Kentucky
2000206	Design of Light-Emitting Diodes (LEDs) Powered Chamber for Study of Optimization of Barley Malt Diastatic (Fermentation) Power and Bioactive Compounds for Food Production	Abuchi Okeke, Akinbode Adedeji	Abuchi Okeke, University of Kentucky
2000464	Estimation of Environmental Impacts of Hermetic Bag Storage Technology	Ma. Cristine Concepcion D. Ignacio, Kurt Rosentrater, Dirk Maier	Ma. Cristine Concepcion D. Ignacio, Iowa State University

2000465 Modeling of Dough Density in a Single Screw Extrusion Process	Ma. Cristine Concepcion D. Ignacio, Kurt Rosentrater	Ma. Cristine Concepcion D. Ignacio, Iowa State University
2000566 Development of Bio-Nanocomposite Films by Combination of PLA and Biochar for Smart Food Packaging	Abdus Sobhan, Kasiviswanathan Muthukumarappan, Lin Wei	Kasiviswanathan Muthukumarappan, South Dakota State University
2000573 Develop Bio-Asphalt-Based Controlled Release Nitrogen Fertilizers for Improving Nitrogen Use Efficiency	Zhisheng Cen, Lin Wei, Cheng Zhang	Lin Wei, South Dakota State University
2001010 Effects of High Pressure Processing on Color and Microbial Quality of Raw Ground Chicken and Raw Ground Beef	Patricia Reyes, Isaac R. Rukundo, Franklin Sumargo, Mary-Grace C. Danao	Patricia Reyes, University of Nebraska-Lincoln
2001051 Effects of Process Variables on Dekkera Bruxellensis Growth Kinetics during Grape Fermentation	Junqing Chen, Yike Chen, Azlin Mustpha, Jinglu Tan	Junqing Chen, University of Missouri
2001133 Development of New Chip Products from Brewer's Spent Grain	Reann Garrett, Danielle Bellmer, William McGlynn, Patricia Rayas	Danielle Bellmer, Oklahoma State University
2001157 Kinetic Modeling of Glycolysis in Postmortem Muscle	Chengcheng Wang, Jinglu Tan	Chengcheng Wang, University of Missouri
2001172 Farm-Scale Drying Performance of Haber Technologies' DRI-Stack System	Kurt A. Rosentrater, Eric Harweger, Dillon Hurd	Kurt Rosentrater, Iowa State University
2001198 Application of Near Infrared Hyperspectral Imaging and Chemometrics for the Prediction of Microbial Quality of Beef During Storage	Eva Gonzales, Márcia Oliveira, Carlos Esquerre, Brijesh Tiwari, Colm O'Donnell	Colm O'Donnell, University College Dublin
2001266 Thermal Stability and In Vitro Controlled Release Kinetics of Lycopene Nanoparticles in the GIT	Jawadul Misir, Lamin S. Kassama	Lamin Kassama, Alabama A&M University
2001286 Bioavailability of Phytochemical and Anti-Oxidant derived from Enzymatic Hydrolyzed Canned Red Kidney Beans (Phaseolus vulgaris L.) in the GIT	Ogechukwu Tasia, Lamin S. Kassama, Judith Boateng, Irenus Tazisong	Lamin Kassama, Alabama A&M University
2001351 Use of Atmospheric Cold Plasma to Inactivate Aspergillus Flavus in Cottonseed Meal, an Active Response to Water Activity	Catelyn Evans, Janie Moore	Catelyn Evans, Texas A&M University

- 2001513 Calibration of Discrete Element Parameters of Fodder Rape Crop Stem at Flowering Stage** Liao Yitao, Wang Zaiteng, Liao Qingxi, Liang Fang, Liu Jie Liu Jie, Huazhong Agricultural University
- 2001563 Comparison of Dielectric Properties of Low-moisture Foods Measured with the Open-Ended Coaxial Probe Method and Parallel Plate Method** Soon Kiat Lau, Damla Dag, Samet Ozturk, Fanbin Kong, Jeyamkondan Subbiah Soon Kiat Lau, University of Nebraska-Lincoln