

MONDAY, JULY 27

Monday, July 27 - 9:30AM-12:00PM

SESSION 101

FOREST BASED BIOMASS: HARVESTING, PROCESSING, TRANSPORT AND STORAGE -

Sponsored by ASE-12, MS-23/7/2

Moderator: Kevin Caffrey, North Carolina State Univ, Raleigh, NC

LOCATION: LA Galleries 1- 2nd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152152797	Monitoring woody biomass chips quality change during field storage in Michigan Yingqian Lin, Michigan State University, Okemos, MI (Y. Lin, F. Pan)
9:50AM	152190747	Soil Response to Skidder Traffic as Indicated by Soil Stress Residuals Brian Parkhurst, Virginia Tech, Blacksburg, VA (E.A. Carter, B. Parkhurst, M. Aust, C. Bolding, S. Barrett, J. Klepac)
10:05AM	152188861	Influence of moisture content, tree height, and tree radius on toughness and strength of loblolly pine. Oladiran O. Fasina, Auburn University, Auburn, AL (O.O. Fasina, A. Young, O.A. Oyedepi, S. Adhikari, T. McDonald)
10:20AM	152189179	Development of a Relationship among the Operating Parameters of Hydrothermal Carbonization (HTC) for Producing Biocoal Jamie Minaret, University of Guelph, Guelph, Canada (J. Minaret, A. Dutta)
10:35AM		Break
10:45AM	152189213	Conceptual Specification of Forest Residues Balers using the Appreciative Design Method James H. Dooley, Forest Concepts, LLC, Auburn, WA (J.H. Dooley)
11:00AM	152188856	Effects of moisture content and storage time on specific grinding energy and physical properties of loblolly pine Oladiran O. Fasina, Auburn University, Auburn, AL (O.O. Fasina, O.A. Oyedepi, S. Adhikari, T. McDonald)
11:15AM	152181344	A Computer-Aided Operation System to Optimize Woody Biomass Feedstock Storage and Transportation Yingqian Lin, Michigan State University, Okemos, MI (Y. Lin, F. Pan, A. Srivastava)

Monday, July 27 - 9:30AM-10:45AM

SESSION 103

ENGINEERING DESIGN, SENSORS AND TECHNOLOGY FOCUSED ON SAFETY, HEALTH AND ERGONOMICS -

Sponsored by ESH

Moderator: Aaron Yoder, UNMC, Omaha, NE

LOCATION: LA Galleries 4- 2nd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152189927	Methods of Collecting and Analyzing Rearward Visibility of Agricultural Machinery: Hazard Detectability Shawn G. Ehlers, Purdue University, Versailles, IN (S.G. Ehlers, W. Field)
9:50AM	152188873	Ergonomic Analysis of IMU Motion Sensor Data Using Hidden Markov Models Simeon Harbert, Georgia Tech Research Institute, Atlanta, GA (S. Harbert, L.R. Harley, T.W. Vaughn)
10:05AM	152182479	Computer-based ROPS Design Program (CRDP): Evaluation of initial validation testing and implementation process Paul Ayers, University of Tennessee, Knoxville, TN (P. Ayers, G. Whitaker, Y. John, J. Dixon)

10:20AM	152188568	Developing a Finite Element (FE) Model to Predict the Roll-Over Protective Structure (ROPS) Behavior under SAE J2194 Standard Test Farzaneh Khorsandi, University of Tennessee, Knoxville, TN (F. Khorsandi, P. D. Ayers)
10:35AM		Break

Monday, July 27 - 9:30AM-12:00PM

SESSION 104

2D AND 3D IMAGE PROCESSING AND ANALYSIS

Moderator: Weilin Wang, Monsanto, St. Louis, MO

LOCATION: LA Galleries 5- 2nd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152158372	Detection of cherry tree branches for automated shake-and-catch harvesting Suraj Amatya, Washington State University, Prosser, WA (S. Amatya, M. Karkee)
9:50AM	152181371	Plant Detection and Localization through the Fusion of 2D and 3D Images for Robotic Weeding Jingyao Gai, Iowa State University, Ames, IA (J. Gai, L. Tang, B. Steward)
10:05AM	152184566	Segmentation of Connected Rice Kernels Based On Boundary Curvature and Image Ping Lin, Yancheng Institute of Technology, Jiangsu, China (P. Lin, Y. Chen)
10:20AM		Break
10:30AM	152189202	Innovative Weed Management Using Smartphone and Crowdsourcing Dharmendra Saraswat, University of Arkansas Cooperative Extension Service, Little Rock, AR (D. Saraswat, M. Rahman, B. Blackwell, N. Banerjee)
10:45AM	152189844	Development of an Automatic Maize Seedling Phenotyping Platform Using 3D Vision and Industrial Robot Arm Hang Lu, Iowa State University, Ames, IA (H. Lu, L. Tang, S. Whitham)
11:00AM	152190281	A two-step framework for detection and labelling of broiler behaviour patterns to thermal environment by means of image processing and hierarchical clustering Renan Vilas Novas, University of Campinas, Campinas, Brazil (D. Conti, R. Vilas Novas, J. Martinez, T.M. Carvalho)

Monday, July 27 - 9:30AM-12:00PM

SESSION 105

UAV AND FIELD ROBOT

Moderator: Stavros G. Vouglioukas, University of California, Davis, CA

LOCATION: LA Galleries 6- 2nd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152189593	A Review of Unmanned Aircraft System (UAS) Applications for Agriculture Derek Myers, California Polytechnic State University, San Luis Obispo, CA (D. Myers, C. Ross, B. Liu)
9:50AM	152189535	UAV Based Remote Sensing of Target Species Habitats Charles Malveaux, Louisiana State University, Baton Rouge, LA (C. Malveaux, R. Price)
10:05AM	152190318	ADS-B Readout Added to UAV Based Remote Sensing Control System for Aircraft Avoidance Charles Malveaux, Louisiana State University, Baton Rouge, LA (C. Malveaux)

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10:20AM	152181695	Integrated Wireless Sensor Network Using Autonomous Unmanned Aerial Vehicles in Orchards Yiannis Ampatzidis, California State University, Bakersfield, CA (J. Ward, A. Ramirez, Y. Ampatzidis)
10:35AM		Break
10:45AM	152190997	An autonomous electric farm vehicle for large protected agriculture structures Arnold Schumann, University of Florida, Lake Alfred, FL (A. Schumann, K. Hostler)
11:00AM	152191021	An autonomous tractor for turfgrass mowing and variable-rate fertilization Jong Hoon Chung, Seoul National University, Seoul, Korea (the Republic of) (K. Lee, S. Yu, S. Back, Y. Kim, S. Chung, J. Chung)
11:15AM	152190119	Herbicide Ballistic Technology: Spatial Tracking Analysis of Operations Characterizing Performance of Target Treatment Roberto Rodriguez, University of Hawaii at Manoa, Honolulu, HI (R. Rodriguez, J.J. Leary, D.M. Jenkins, B.V. Mahnken)
11:30AM	152188888	A low-cost GPS/INS Integrated System for an Auto Guided Tractor Xiongze Han, Seoul National University, Seoul, Korea (the Republic of) (X. Han, H. Kim, C. Jeon, S. Han, H. Moon, J. Kim)

Monday, July 27 - 10:45AM-12:00PM

SESSION 106

STRUCTURAL SAFETY AND DESIGN FACTORS FOR AGRICULTURAL CONFINED SPACES, INCLUDING FALL HAZARDS - Sponsored by ESH
Moderator: Michael Pate, Utah State Univ
LOCATION: LA Galleries 4- 2nd Floor

Time	Paper #	Title/Authors
10:45AM		Introduction
10:50AM	152188937	Work in Alternative and Enriched Cage Systems for Laying Hens and Self-Reported Health Sven A. Nimmermark, Swedish Univ Agric Sciences, Alnarp, Sweden (S.A. Nimmermark)
11:05AM	152189336	A review on the environmental impact and physiological conditions on the human body during an engulfment, entrapment and extrication. Salah Issa, Purdue University, Lafayette, IN (S. Issa, C. Schwab, W. Field)

Monday, July 27 - 9:30AM-12:15PM

SESSION 107

COMPUTATIONAL FLUID DYNAMICS (CFD) APPLICATIONS IN AGRICULTURE - Sponsored by ITSC-217, NRES-265, NRES-244, FS-302, FS-405
Moderator: Christopher Y. Choi, University of Wisconsin, Madison, WI
LOCATION: Mardi Gras A- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152190130	An Annual Review - Computational Fluid Dynamics (CFD) Applications in Agriculture Christopher Y. Choi, University of Wisconsin-Madison, Madison, WI (C.Y. Choi)
9:50AM	152175379	Effects of Standard k-ε and LES Turbulence Models on a Full Scale Numerical CFD Simulation for a Naturally Ventilated Pig Barn Prototype Peter Demeyer, Institute for Agricultural and Fisheries Research (ILVO), Mellebeke, Belgium (L.B. Mendes, G. De Vogeleer, P. Van Overbeke, P. Demeyer, J.G. Pieters)

10:05AM	152189200	Validation of a computational fluid dynamics model of methane and ammonia emissions from a tie-stall dairy barn Jessica Drewry, University of Wisconsin, Madison, WI (J. Drewry, J.M. Powell, C.Y. Choi)
10:20AM	152187765	Enhanced online CFD tool features for ventilating manure pits Harvey B. Manbeck, The Pennsylvania State University, University Park, PA (D. Hofstetter, H.B. Manbeck, D. Murphy, V.M. Puri)
10:35AM		Break
10:45AM	152189802	Assessment of Dairy Cow Geometries in Computational Modeling Mario Mondaca, University of Wisconsin, Madison, WI (M. Mondaca, C.Y. Choi)
11:00AM	152191022	Numerical simulation of odor dispersion in a live-stock farm Kaiying Wang, Zhejiang University, Hangzhou, China (K. Wang, Q. Pan, B. Wu)
11:15AM	152185513	Estimation of Spatial Contribution [K1] of CO2 flux derived from Land Use Classification using CFD technique Taehwan Ha, Seoul National University, Seoul, Korea (the Republic of) (T. Ha, I. Lee)
11:30PM	152190496	Computational Fluid Dynamics: An Effective Tool for Agricultural Engineering Analysis Folasayo T. Fayose, Federal University Oye-Ekiti, Ikole Campus, Nigeria (F.T. Fayose, C. Bolu)

Monday, July 27 - 9:30AM-12:45PM

SESSION 108

ADVANCES IN COTTON

ENGINEERING - Sponsored by MS-23/7/3
Moderator: Robert Hardin, USDA-ARS, Stoneville, MS
LOCATION: Mardi Gras B- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152190749	A Century of Cotton Production in the United States, 1915-2015 Calvin B. Parnell, TAMU, College Station, TX (C.B. Parnell, R. McGee)
9:50AM	152188472	Girdling Defoliation of Cotton; 2014 Field Trial Paul Funk, USDA-ARS, Mesilla Park, NM (P. Funk)
10:05AM	152189961	A Basket Weight Measurement System for Cotton Harvesters John D. Wanjura, USDA ARS CPPRU, Lubbock, TX (J.D. Wanjura, M. Pelletier, G. Holt)
10:20AM	152190305	Model and System for Cotton-picker Operation Scheduling Caicong Wu, College of Information and Electrical Engineering, China Agricultural University, Beijing, TX, China (C. Wu, J. Zhao, J. Wang, L. Zhou, Y. Cai)
10:35AM	152163686	Predicting Seed Cotton Moisture Content in a Mississippi Gin Carlos B. Armijo, USDA-ARS, Mesilla Park, NM (C.B. Armijo, R.G. Hardin, P.A. Funk, M.N. Gillum)
10:50AM	152212819	Fiber Loss from Seed Cotton Cleaning Machinery Robert G. Hardin, USDA-ARS, Stoneville, MS (R.G. Hardin, R. Byler)
11:05AM		Break
11:15AM	152188703	Examining use of a cylinder cleaner as a lint cleaner to facilitate plastic removal in a cotton gin Richard Byler, USDA-ARS, Stoneville, MS (R. Byler, R.G. Hardin)
11:30AM	152189878	Detection of synthetic foreign matter in cotton lint by shortwave infrared hyperspectral imaging Ruoyu Zhang, Shihezi University, Shihezi, GA, China (R. Zhang, C. Li)

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11:45AM	152188755	Current research to maintain contamination-free U.S. cotton. Derek Whitelock, USDA-ARS, Mesilla Park, NM (D. Whitelock, W. Jiang, C.B. Armijo, G. Rayson, K. Baker, E. Hughes, R. Byler, M. Pelletier)
12:00PM	152189735	Application of particle size distributions to total particulate stack samples to estimate PM2.5 and PM10 emission factors for agricultural sources. Derek Whitelock, USDA-ARS Southwestern Cotton Ginning Research Laboratory, Mesilla Park, NM (D. Whitelock, M.D. Buser, L. Wang-Li)
12:15PM	152190271	Examining the Impact of Bark on Textile Processing Christopher Delhom, USDA Agricultural Research Service, New Orleans, LA (C. Delhom, R.G. Hardin, R. Byler)
12:30PM	152188686	Mechanical Cottonseed Delinter: Prototype Test Results Greg Holt, USDA-ARS, Lubbock, TX (G. Holt, T. Wedegartner, j. wanjura, m. pelletier)

Monday, July 27 - 9:30AM-12:15PM

SESSION 109

CROP AND SOIL SENSING FOR PRECISION AGRICULTURE -

Sponsored by MS-54

Moderator: Viacheslav Adamchuk,
Sainte-Anne-de-Bellevue, Canada

LOCATION: Mardi Gras C- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152168310	Evaluation of commercial ground based and aerial sensors for predicting optimal corn nitrogen application rate Ce Yang, University of Minnesota, St Paul, MN (C. Yang, D. Kaiser)
9:50AM	152188566	Crop height estimation in wheat using proximal sensing techniques Jianfeng Zhou, Department of Biological Systems Engineering, Washington State University, Pullman, WA (J. Zhou, S. Sankaran, L.R. Khot, M.O. Pumpfrey, A.H. Carter)
10:05AM	152188627	SmartCrop Sensors for Predicting Irrigation Requirements for Peanut in the Southeast Wesley M. Porter, University of Georgia/Auburn University, Tifton, GA (W.M. Porter, J.L. Snider, W.S. Monfort, C. Perry, G. Vellidis)
10:20AM	152189271	Deploying a Thermal Infrared Imaging System (TIRIS) for High Spatial and Temporal Resolution Crop Water Stress Monitoring of Corn within a Greenhouse Devin L. Mangus, Kansas State University, Manhattan, KS (D.L. Mangus, A. Sharda, N. Zhang)
10:35AM		Break
10:45AM	152189775	VOC and Spectral Measurement of Bell Pepper Pathogen for Precision Management Glen C. Rains, Univ. of Georgia, Tifton, GA (G.C. Rains, X. Song, G. McMurray, P. Ji)
11:00AM	152190199	Mapping cotton plant height using an ultrasonic sensor and airborne multispectral and hyperspectral imagery Chenghai Yang, USDA-ARS, College Station, TX (C. Yang, D.E. Martin)
11:15AM	152190729	Evaluating plant responses to water stress in dry bean genetic breeding populations using remote sensing technique Sindhuja Sankaran, Washington State University, Pullman, WA (S. Sankaran, L.R. Khot, J. Zhou, J. Trapp, P.N. Miklas)
11:30AM	152185312	Potential of EPO in moisture-independent prediction of intact soil properties from dry ground soil VisNIR reflectance spectra Yufeng Ge, University of Nebraska-Lincoln, Lincoln, NE (N.K. Wijewardane, Y. Ge, G. Bai)

11:45PM	152189140	Estimation of soil profile physical and chemical properties using a VIS-NIR-EC-force probe YongJin Cho, University of Missouri, Bioengineering Dept., Columbia, MO (Y. Cho, K.A. Sudduth)
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Monday, July 27 - 9:30AM-12:15PM

SESSION 110

HARVESTING, HANDLING, STORAGE, TRANSPORT, AND PROCESSING OF FORAGES AND BIOMASS FEEDSTOCKS - Sponsored by MS-23/7/2

Moderators: Ashley Johnson, John Deere, Ottumwa, IA and Andy Theisen, Kondex Inc., Lomira, WI

LOCATION: LA Galleries 2- 2nd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152182882	Fractional Harvest of Corn Silage Kevin Shinnars, Univ. of Wisconsin, Madison, WI (K. Shinnars, B. Nigon, D. Cook)
9:50AM	152189931	Corn silage Kernel Processing Score determination via image analysis techniques. Brian D. Luck, University of Wisconsin-Madison, Madison, WI (B.D. Luck, J. Harmon)
10:05AM	152157706	Adaptability of Chopper Harvester in Harvesting Sugarcane, Energy Cane, and Bana Grass Shaochun Ma, Washington State University, Prosser, WA (S. Ma, P. Scharf, M. Karkee, Q. Zhang)
10:20AM	152190871	Reconfiguring Round Bale Shape and Density to Improve Biomass Transport Nolan Lacy, University of Wisconsin, Madison, WI (N. Lacy, K. Shinnars)
10:35AM		Break
10:45AM	152181919	Mechanical Properties of Hollow and Solid Varieties of Wheat Stems Lope G. G. Tabil, university of saskatchewan, Saskatoon, Canada (U. Edet, L.G. Tabil, M. Prasad, M. Soleimani)
11:00AM	152182896	Increasing Biomass Yield When Single-Pass Baling Kevin Shinnars, Univ. of Wisconsin, Madison, WI (K. Shinnars, S. Diestche, J. Friede)
11:15AM	152189859	Design and instrumentation of a lab-scale biomass drying apparatus Christopher Lanning, Forest Concepts, Auburn, WA (C. Lanning, D. Lanning)
11:30AM	152209501	Evaluation of a pull-type harvesting system for fractionation of alfalfa Matthew Digman, KUHN, Brodhead, WI (M. Digman, K. Shinnars)
11:45AM	152215210	Uniformity of Manipulated Windrows: The Utility of a Ranging Laser Scanner Matthew Digman, KUHN, Brodhead, WI (M. Digman, K. Shinnars)



CAREER FAIR

**Tuesday, July 28
9:30AM-12:00PM**

MONDAY, JULY 27

Monday, July 27 - 9:30AM-12:15PM

SESSION 111

AUTOMATION AND ROBOTICS FOR SPECIALTY CROPS - Sponsored by MS-48, ITSC-310

Moderator: Manoj Karkee, Washington State University, Prosser, WA

LOCATION: Mardi Gras E- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152180249	Investigate the influence of steering modes on path tracking performance of a “bin-dog” platform with a four-wheel-independent steering system Yunxiang Ye, Washington State University, Prosser, WA (Y. Ye, S. Ma, Q. Zhang)
9:50AM	152182687	Evaluation of multi-row covers and support structure for cantaloupe and summer squash Mark Hanna, Iowa State University, Ames, IA (M. Hanna, B. Carlson, B. Steward, K.A. Rosentrater)
10:05AM	152188868	Performance and Evaluation of Intra-Row Weeder Ultrasonic Plant Detection System and Pinch-Roller Weeding Mechanism for Vegetable Crops Mazin Saber, Agricultural and Biological Engineering, University of Florida, Gainesville, FL (M. Saber, W. Lee, T.F. burks, J.K. Schueller, C.A. Chase, G.E. MacDonald, G.A. Salvador)
10:20AM	152189693	Design and experiment of rotary drum combing type litchi picker Yanming Jiang, South China Agricultural University, Guangzhou, China (Y. Jiang, L. Zhao, L. Huazhong, L. Enli, J. Li)
10:35AM		Break
10:45AM	152189564	Design and analysis of pushing-impacting fruit harvester with unequal stroke Liang Sun, Zhejiang Sci-Tech University, Hangzhou, China (Q. Gao, X. Du, L. Sun, B. YE, J. Chen)
11:00AM	152190319	Mobile Batch Heat Treatment System for Treating HLB-Infected Citrus Trees Ahmed Al-Jumaili, University of Florida, Lake Alfred, FL, United States (A. Al-Jumaili, R. Ehsani)
11:15AM	152190512	Midwestern Row Crop Autonomous Agricultural Machinery Design Considerations Jared Werner, University of Nebraska-Lincoln, Lincoln, NE (J. Werner, S. Pitla)
11:30AM	152190771	Steps towards an Autonomous Field Scout and Sampling System Glen C. Rains, Univ. of Georgia, Tifton, GA (G.C. Rains, B. Bazemore, K. Ahlin, A. Hu, N. Sadegh, G. McMurray)

Monday, July 27 - 9:30AM-12:00PM

SESSION 112

MACHINERY SYSTEMS TECHNICAL COMMUNITY POSTER SESSION -

Sponsored by MS-54

Moderator: Neal Stoffel, Kondex Corp, Lomira, WI

LOCATION: Exhibit Hall- 2nd Floor

Poster #	Paper #	Title/Authors
1	152161765	Design of a Shaking Jujube Harvest Device Which has the Function of Classification Tengfei Li, College of Engineering, China Agricultural University, Beijing, China (S. Li, G. Wang, D. Wang, x. zhang, L. Guo, T. Li)

POSTER INFORMATION

Size of poster boards: 91 inch wide by 44.5 inch deep

Mount poster using push pins

Posters must be removed no later than 15 minutes after the session.

PLEASE NOTE: Those not removed by presenter will be removed by staff and disposed of at the end of the day.

2	152175524	Study on Optimum Economic shift Law of Automated Mechanical Transmission Dongxiang Yan, College of Engineering, China Agricultural University, Beijing, China (D. Yan, F. Jiang, J. Qu, Y. Peng)
3	152190693	Web-based system for monitoring temperature inversions from portable field towers Steven J. Thomson, USDA ARS, Stoneville, MS (S.J. Thomson, D. Fisher, Y. Huang, D.B. Reynolds, B.K. Fritz, R.S. Fletcher)
4	152190818	Spray coverage and deposition distributions inside tree canopies from a variable-rate air-assisted sprayer Jiabing Gu, Nanjing Agricultural University, Nanjing, China (H. Zhu, J. Gu, W. Ding)
5	152189854	Maize seed movement characteristic and seed-filling performance analysis in seed transport and delivery unit based on ADAMS Li Yang, China Agriculture University, Beijing, China (Q. Liu, L. Yang, D. Zhang, T. Cui, S. Shi)
6	152189870	Experiment Study on Cylinder Drive Downforce System of Maize Precision Planter Dongxing Zhang, China Agriculture University, Beijing, China (X. Yin, D. Zhang, L. Yang, R. Zhang, T. Cui)
7	152190273	Design and test of automatic control system of sowing for metering device Dongxing Zhang, China Agriculture University, Beijing, China (Q. Liu, L. Yang, D. Zhang, T. Cui)
8	152190609	Integration of Laser Scanner and Odometry for Autonomous Robotic Lawn-mower Chung-Liang Chang, National Pingtung University of Science and Technology, Pingtung County, Taiwan (C. Chang, C. Yang, G. Song)
9	152189107	Structural Design for Squeeze Back Machine Based on CATIA Tengfei Li, China Agricultural University, Beijing, China (Y. Fan, D. Wang, D. Wang, X. Fang, S. Liu, G. Wang, x. zhang, L. Guo, T. Li)
10	152189081	Running state monitoring system based on the CAN-bus for agricultural equipment Gang Wu, China Agricultural University, Beijing, China (C. WANG, Y. TAN, Y. Zheng, G. Wu, S. Li)
11	152189331	Comparing various hardware/software solutions for Controller Area Network (CAN) Bus data collection Samuel Marx, University of Nebraska Lincoln, Lincoln, NE (S. Marx, J.D. Luck, S. Pitla)
12	152189675	The Modal Analysis and Simulation of Gramineae-Leguminous Mixed Seeding Based on EDEM Tengfei Li, College of Engineering, China Agricultural University, Beijing, China (S. Li, G. Wang, D. Wang, x. zhang, L. Guo, T. Li)
13	152189798	Swather Time and Motion Study for Bio-feedstocks: Preliminary Results Collin C. Craige, Oklahoma State University, Stillwater, OK (C.C. Craige, M.D. Buser, E.A. Miller, V. schielack, R.L. Huhnke)
14	152156125	Numerical optimum design of new fuel injection igniter Meisheng Jiang, China Agricultural University, Beijing, China (M. Jiang, K. Peng, X. Huo, H. Liu, S. Wang, C. Liu)
15	152187156	Development of a process using precision agriculture techniques for simultaneous application of fertilizer in variable rate system Carlos Eduardo S. Volpato, Federal University of Lavras, Lavras, Brazil (C.S. Volpato, M.M. Barros, F.M. Silva)

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| 16 | 152189572 | Differentiation of laurel wilt disease from nutrient deficiency in avocado trees using Vis-NIR spectroscopy
Jaafar J. Abdul-Ridha, University of Florida, Lake Alfred, FL (J.J. Abdul-Ridha, R. Ehsani, A.I. de Castro, R. Ploetz, J. Konkol) | 32 | 152189354 | Fruit Characteristics Effect on Picking Efficiency of Wild Blueberry Harvester
Muhammad W. Jameel, Dalhousie University, Truro, Canada (M.W. Jameel, Q. Zaman, A. Schumann, T. Quang, G. Brewster, A.A. Farooque, H.S. Chattha) |
| 17 | 152189898 | As-Applied Estimation of Volumetric Flow Rate on a Single Sprayer Nozzle Series using Water Sensitive Spray Cards
Michael P. Sama, University of Kentucky, Lexington, KY (M.P. Sama, J.T. Evans, A.P. Turner) | 33 | 152192091 | Carbohydrate and Fat Staining and Imaging of Low-Oil DDGS Particles
Rumela Bhadra, USDA ARS, Manhattan, KS (R. Bhadra, R. Ambrose) |
| 18 | 152188533 | A semi-automatically controlled variable-rate system for vertical boom sprayers
Yue Shen, Jiangsu University, Zhenjiang, China (Y. Shen, H. Zhu, H. Liu) | 34 | 152182441 | Evaluation of a custom residue manager for cover crops and its effects on cotton population and yield in a no-till system
Ted S. Kornecki, USDA-ARS, Auburn, AL (T.S. Kornecki, H. Torbert, S.A. Prior) |
| 19 | 152191055 | Effect of GNSS Antenna Placement on Universal Mount Automatic Steering Systems
Gary Roberson, NC State University, Raleigh, NC (G. Roberson) | 35 | 152189688 | Optimal design and simulation analysis on a sowing depth control unit for corn precision planter
Dongxing Zhang, China Agricultural University, Beijing, China (R. Zhang, D. Zhang, L. Yang, B. Yan) |
| 20 | 152187863 | Cotton Yield Estimation Using Digital Imagery Acquired on a Small Unmanned Aerial Vehicle
Yanbo Huang, USDA ARS, Stoneville, MS (Y. Huang, R. Sui, S.J. Thomson) | 36 | 152188484 | The Research on Filling Theory of Rice Precision Metering Device Based on Three Dimension Scanning Technique
Cailing Liu, Chian Agricultural University, Beijing, China (C. Liu) |
| 21 | 152190440 | The design of distributed measuring angle system based on MEMS sensors
Yongjun Zheng, National Engineering Research Center of Intelligent Equipment for Agriculture (NERCIEA), Beijing, China (Y. Zheng, Y. Lan, C. Zhao, L. Chen, C. Ma, Z. Jin, Y. Tan, S. Wang) | 37 | 152189550 | Innovation and kinematics analysis of rice wide-narrow row pot seedling transplanting mechanism
Liang Sun, Zhejiang Sci-Tech University, Hangzhou, China (L. Sun, Y. Zhao, X. Liu, X. Zhao, G. Zhang) |
| 22 | 152189680 | Pre-treatment system for in-field measurement of soil phosphorus
Hyo-Je Park, Gyeongsang National University, Jinju, Korea (the Republic of) (H. Park, C. Han, G. Kweon) | 38 | 152180882 | Studies on Power Farming Systems of Welsh Onion Cultivation(Part1); Optimization of chain pot connection
Tomomi Otake, Yamagata university, Tsuruoka, Japan (T. Otake, H. Shindo, M. Katahira, M. Natsuga) |
| 23 | 152188939 | Research on the adaptability of corn stripping harvest method to different ear growth orientations
Dongxing Zhang, China Agricultural University, Beijing, China (Z. Zhang, D. Zhang, T. Cui, K. Li) | 39 | 152188880 | Studies on Power Farming Systems of Welsh Onion Cultivation (Part 2); Effects on Welsh onion growth and yield of the numbers of seedlings per cell in chain pots
Motomu Honjo, Akita prefecture university, Akita, Japan (M. Honjo, H. Shindo, T. Otake, M. Saito, M. Katahira, M. Natsuga, Y. Yoshida, Y. Kaneta) |
| 24 | 152188953 | Experiment on mechanical properties of corn plant related to corn stripping harvest mechanism
Dongxing Zhang, China Agricultural University, Beijing, China (Z. Zhang, D. Zhang, T. Cui, K. Li) | 40 | 152188876 | Studies on Power Farming Systems of Welsh Onion Cultivation (Part 3); Growth promotion effects and fertilizer amount reduction with drill fertilizing
Hayato Shindo, Iwate university, Morioka, Japan (H. Shindo, T. Otake, M. Honjo, M. Saito, M. Katahira, M. Natsuga) |
| 25 | 152189628 | Study on structural and operating parameters of a cob-picking and stalk-chopping combined mechanism
Dongxing Zhang, China Agricultural University, Beijing, China (T. Cui, D. Zhang, Z. Zhang, R. Zhang, I. yang) | 41 | 152184338 | Tillage Optimization Using a Neural Network and Numerical Analysis
Elizabeth Frink, Kansas State University, Manhattan, KS (E. Frink, D. Flippo) |
| 26 | 152189748 | Experimental Study on Working Parameters of Automatic Self-adjusting Deck Plates Corn Header
Dongxing Zhang, China Agricultural University, Beijing, China (K. Li, T. Cui, D. Zhang, L. Yang, S. Shi, Z. Zhang, Z. Liang) | 42 | 152189868 | Traction Resistance and Soil Properties as Affected by Two Types of Deep Ripper Plough Shank under silt-clay soil
Dongxing Zhang, China Agricultural University, Beijing, China (A.N. Osman, T. Cui, D. Zhang, Q. Liu, L. Yang) |
| 27 | 152189682 | Optimize Analysis and Experimental Study on Cutters of Rotary Mower
Bei Wu, College of Engineering, China agricultural university, Beijing, China (B. Wu, D. Wang, G. Wang, Z. Fu, Z. Guo) | 43 | 152188745 | Profit and cost variation with the size variation of biorefinery
Ambika Karkee, ISU, Ames, IA (A. Karkee, S. Birrell) |
| 28 | 152188918 | Design and Simulation of the Copying Spring of Self-propelled Mowers
Bei Wu, College of Engineering, China agricultural university, Beijing, China (B. Wu, D. Wang, G. Wang, Z. Fu, Z. Guo, Z. Gong, L. Guo) | 44 | 152190132 | Preliminary Moisture Content Sampling Scheme for Large Rectangular Bales
Nyoman Sulastr, Oklahoma State University, Stillwater, OK (N. Sulastr, M.D. Buser, C.C. Craige, E. Miller, V. Schielack, R. huhnke) |
| 29 | 152189585 | Experimental Study on Alfalfa Stems Staving
Bei Wu, College of Engineering, China agricultural university, Beijing, China (B. Wu, D. Wang, G. Wang, Z. Gong, J. Qi) | 45 | 152190143 | Preliminary Moisture Variability in Large Rectangular Bales
Nyoman Sulastr, Oklahoma State University, Stillwater, OK (N. Sulastr, M.D. Buser, C.C. Craige, E. Miller, V. Schielack, R. huhnke) |
| 30 | 152189301 | Quantification of Wild Blueberry Fruit Losses at Different Time Intervals During Mechanical Harvesting
Salamat Ali, Dalhousie University, NS, Canada, Truro, Canada (S. Ali, Q. Zaman, A. Schumann, A.A. Farooque) | 46 | 152183139 | Simulation and experiment of yak dung pick up fork-lift
Tengfei Li, China Agricultural University, Beijing, China (C. Gong, G. Wang, D. Wang, T. Li, X. Zhang) |
| 31 | 152189674 | Development of a recycling machine for plastic sheet during seedling period
Dongxing Zhang, China Agricultural University, Beijing, China (L. Yang, Q. Liu, H. Lai, T. Cui, D. Zhang) | | | |

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47	152183878	The Design and Simulation of the Test Bench of A Disc Mower Tengfei Li, China Agricultural University, Beijing, China (Z. Guo, D. Wang, B. Wu, G. Wang, Z. Wang, L. Liu, T. Li)	62	152188925	Design and Simulation of air-suction precision cottonseed-metering device based on discrete element method Dongxing Zhang, China Agricultural University, Beijing, China (D. Han, D. Zhang, T. Cui, L. Yang)
48	152189603	Optimal Design and Bundling-straw Tests of Anthropathic Dual-finger Knotter Based on the Principle of D-knotter Jianjun Yin, Jiangsu University, Zhenjiang, China (J. Yin)	63	152188353	The effects of vibrating subsoiling on traction resistance and soil properties Weixin Wang, Mechanical and Electrical Engineering, Shihezi, China (M. Tang, D. Zhang, X. Li, W. Wang)
49	152188916	Stimulating Effects of Low-temperature Helium Plasma on Germination Characteristics of Sorghum sudanense(Piper) Stapf. Jinkui Feng, College of Engineering, China Agricultural University, Beijing, China (J. Feng, D. Wang, C. Shao, G. Wang)	64	152188239	Simulation and Experimental Study on Pulverizer Performance of Reversal Rotary Tiller Based on Discrete Element Method Jianping Hu, Jiangsu University, Zhenjiang, China (J. Hu, X.Z. Feng)
50	152188944	Study on the Inherent Characteristics of Ginkgo Trees Based on Vibration Harvesting Changqin Wang, Nanjing Forestry University, Nanjing, China (Y. Xuan, L. Xu, C. Wang, Z.c. Jia, H. Lin)	65	152184317	Automatic control system design of a low –temperature plasma test platform for seed processing Tengfei Li, China Agricultural University, Beijing, China (R. Jia, L. Liu, D. Wang, C. Shao, G. Wang, Z. Wang, T. Li)
51	152189512	Development for Vegetable soybean (edamame) sorting machine to use image processing Mitsuhiko Katahira, Yamagata university, Tsuruoka, Japan (S. Kaminaga, F. Takahashi, M. Katahira, M. Natsuga)	66	152184188	The design of grassland soil-gashing and root-cutting machine with profiling mechanism Li Li, China Agricultural University, Beijing, China (L. Li, G. Wang, F. Liang, D. Wang, L. Liu, Z. Wang, x. zhang, L. Guo)
52	152189707	Experimental Study on Corn Harvester for Intercropping Pattern Li Yang, China Agricultural University, Beijing, China (Z. Qu, L. Yang, D. Zhang)	67	152179077	The Key Structure Optimization Design of 2BJYM-4 Type Seeder Xiaopeng Bai, College Of Engineering.CAU, Beijing, China (X. Bai, Z. Wang, D. Wang, G. Wang, D. Lu)
53	152189728	Simulation and Analysis of Movement of Alfalfa Seeds in the Air Screen Cleaner on EDEM Tengfei Li, College of Engineering, China Agricultural University, Beijing, China (J. Feng, x. zhang, T. Li, D. Wang, G. Wang, C. Shao)	68	152155561	Research Progress of Automated Seedling Transplanter in Greenhouse Chuanyu Wu, Faculty of Mechanical Engineering & Automation, Zhejiang Sci-Tech University, Hangzhou, China (J. Tong, H. Jiang, C. Wu, G. Yu, Z. Jiang)
54	152189865	Modal Analysis of the Air Screen Cleaning Machine Based on ANSYS Tengfei Li, College of Engineering, China Agricultural University, Beijing, China (J. Feng, S. Liu, T. Li, x. zhang, D. Wang, G. Wang)	69	152151639	Design and Experimental Research of a Rice Precision Seeder for Plug Seedlings Cailling Liu, Chian Agricultural University, Beijing, China (C. Liu)
55	152190583	Butterbur Peeling Machine Development Shigehito Sato, Yamagata university, Tsuruoka, Japan (S. Sato, F. Takahashi, M. Katahira, M. Natsuga)	70	152301677	Research on the Innovative and Optimized Design of a Rotary Transplanting Machine for Rice Pot Seedling Yun Zhao, Northeast Agricultural University, Harbin, China (Y. Zhao)
56	152192089	Time and Aeration Effects on Compaction Factors for Grain Bins Rumela Bhadra, USDAARS, Manhattan, KS (R. Bhadra, J.M. Boac, M. Casada, S. Thompson, M. Montross, S.G. McNeill, R.G. Maghirang)	71	152188473	Microclimate Sensing and Environmental Regulation System based on Cloud-computing for Greenhouse Application Chung-Liang Chang, National Pingtung University of Science and Technology, Pingtung County, Taiwan (C. Chang, G. Song, Y. Huang, J. Miao)
57	152189689	Optimal design and experiment of an automated Micropropagation Machine for potato tissue culture seedlings Li Yang, China Agricultural University, Beijing, China (H. Lai, X. He, L. Yang, D. Zhang, T. Cui, Y. Hao)	<div>Monday, July 27 - 10:00AM-1:00PM</div> <div>SESSION 113</div> <div>ASABE SPECIAL INITIATIVE SESSION IN “ECOHYDROLOGY”</div> <div>Moderator: Rafael Muñoz-Carpena, Univ of Florida</div> <div>LOCATION: Grand Ballroom- 3rd Floor</div> <div>Keynote Speaker: Professor Andrea Rinaldo, Ecole Polytechnique Federale De Lausanne (Switzerland)</div> <div>Title/Authors</div> <div>Introduction to the ASABE Special Ecohydrology Program</div> <div>Rafael Muñoz-Carpena, Professor, University of Florida</div> <div>The metapopulation capacity of evolving fluvial landscapes”</div> <div>Andrea Rinaldo, Professor and Director of the Ecohydrology Lab, EPFL, Switzerland</div>		
58	152189695	An Automated Soaking and Rinsing Machine for Chemical Mutation Breeding Li Yang, China Agricultural University, Beijing, China (X. He, M. Wang, L. Yang, D. Zhang, T. Cui)			
59	152189758	Experimental Study on Motor Driven Pneumatic Precision Seed-metering Device For Maize Dongxing Zhang, China agricultural university, Beijing, China (Z. Liang, D. Zhang, L. Yang, T. Cui, Y. Hao)			
60	152189643	Effects of varying down force on sowing performance and seed emergence of corn no-till seeding with wheat straw Dongxing Zhang, China Agricultural University, Beijing, China (R. Zhang, D. Zhang, T. Cui, K. Li)			
61	152188958	Experimental Study on Pneumatic Precision Seed-metering Device for Maize Dongxing Zhang, College of Engineering, China Agricultural University, Beijing, China (S. Shi, D. Zhang, T. Cui)			

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11:10AM	Agricultural ecohydrology and watershed management Indrajeet Chaubey, Professor, Purdue University Moderator: R. Wayne Skaggs, William Neil Reynolds Professor, North Carolina State University
11:40AM	On incorporating strategic behavior in ecohydrological models Rachata Muneeppeerakul, Associate Professor, University of Florida Moderator: Garey Fox, Professor and Buchanan Endowed Chair, Director of the Oklahoma Water Resources Center, Oklahoma State University
12:10PM	Adaptive Ecohydrology: Exciting Trends in Research and Applications Kyle Douglas-Mankin, Senior Hydrologist, US Fish & Wildlife Service Moderator: Daren Harmel, Research Leader, USDA-ARS Grasslands, Soil and Water Research Lab
12:40PM	Roundtable: Ecohydrology and opportunities for ASABE Moderator: Sherry Hunt, Research Leader, USDA-ARS Hydraulic Engineering Research Center Panelists: Andrea Rinaldo Indrajeet Chaubey Rachata Muneeppeerakul Kyle Douglas-Mankin
1:15PM	Closing Remarks Rafael Muñoz-Carpena, Professor, University of Florida

Monday, July 27 - 9:30AM-12:15PM

SESSION 114

MEASUREMENT AND MITIGATION OF AIR POLLUTANTS FROM LIVESTOCK AND POULTRY HOUSING - PART 1 - Sponsored by PAFS-305, PAFS-405

Moderator: Kenneth Casey, Texas A&M AgriLife Research, Amarillo, TX

LOCATION: Mardi Gras F- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152189190	Ammonia Emissions of Three Laying-hen Housing Systems as Affected by Manure Accumulation Time Timothy A. Shepherd, Iowa State University, Ames, IA (T.A. Shepherd, H. Xin, Y. Zhao, M. Hayes, H. Li, J.P. Stinn)
9:50AM	152190538	Using wet scrubber to capture ammonia emission from broiler houses Chen Zhang, University of Delaware, Newark, DE (C. Zhang, H. Li, P.A. Moore)
10:05AM	152189970	Quantification of Spatial Variability and Seasonal Effects on Gaseous Emissions from an Open Swine Manure Storage using Dynamic Flux Chambers Atilgan Atilgan, Iowa State University, Ames, IA (J.A. Klein, A. Atilgan, J.P. Stinn, H. Xin, T.A. Shepherd)
10:20AM	152190024	Atmospheric Behavior of Ammonia and Its Interactions with Animal Feeding Operation Facilities Lingjuan W. Wang-Li, North Carolina State University, Raleigh, NC (Y. Zhao, L.W. Wang-Li)
10:35AM	152188386	Winter Emissions of Pollutant Gases from Four Turkish Sheep Barns Ilker Kilic, Uludag University, Bursa, Turkey (I. Kilic, E. Yaslioglu, E. Simsek, A. Heber)
10:50AM		Break
11:00AM	152189771	Effect of in-house chicken litter composting on ammonia and nitrous oxide emissions and pathogen reduction Kyoung S. Ro, USDA-ARS, Florence, SC (K.S. Ro, P.A. Moore, A. Szogi, B. Eugene, P. Millner)

11:15AM	152184472	Reduction of Particulate Matter, Ammonia, and Airborne and Litter Bacteria by Spraying Acidic Electrolyzed Water onto Poultry Litter from Aviary Laying-hen Houses Yang Zhao, Iowa State University, Ames, IA (Y. Zhao, H. Xin, A. Atilgan, T. Wang, M. Soupier)
11:30AM	152189851	Removal of Ammonia and Airborne Culturable Bacteria by Windbreak Wall with Slightly Acidic Electrolyzed Water Spray for a Layer Breeding House Weichao Zheng, China Agricultural University, Beijing, China (W. Zheng, Z. Li, S.B. Shah, B. Li)
11:45M	152190126	Vegetative Environmental Buffers (VEBs) for Mitigating Emissions of Multiple Air Pollutants from Research Swine Barns Yang Liu, Kansas State University, Manhattan, KS (Y. Liu, Z. Liu, J.P. Murphy, R. Maghirang, J. DeRouchey)

Monday, July 27 - 9:30AM-12:00PM

SESSION 115

GREENHOUSE AND NURSERY TECHNOLOGY APPLICATIONS -

Sponsored by PAFS-303

Moderator: Lucas McCartney, McGill University, St-Gabriel-de-Valcartier, Canada

LOCATION: Mardi Gras H- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152184825	Factors Affecting Cucurbit Production Kurt A. Rosentrater, Iowa State University, Ames, IA (K.A. Rosentrater, D. Polk, M. Hanna, B. Steward)
9:50AM	152189842	Effect of Different Ratios of Red and Blue LED Light on Tomato Production Most Tahera Naznin, McGill University, Montreal, Canada (M. Naznin, M. Lefsrud, V. Gravel, B. Wu, S. Reddy)
10:05AM	152188617	Life Cycle Assessment (LCA) and Techno-Economic Analysis (TEA) of Tilapia Basil Aquaponics Kurt A. Rosentrater, Iowa State University, Ames, IA (K. Xie, K.A. Rosentrater)
10:20AM	152190521	Estimation of Wind Pressure Coefficients on Even-Span Greenhouse built in reclaimed land according to Roof Slope using Wind tunnel Uk-hyeon Yeo, Seoul National University, Seoul, Korea (the Republic of) (S. Park, I. Lee, U. Yeo)
10:35AM		Break
10:45AM	152190584	Estimation of Ventilation Rates of Greenhouses built on a Reclaimed Land using CFD technique Yeseul Jo, Seoul National University, Seoul, Korea (the Republic of) (T. Ha, I. Lee, Y. Jo)
11:00AM	152190597	Evaluation of Wind Pressure Coefficient of Greenhouse built in Reclaimed land Kyeongseok Kwon, Seoul National University, Seoul, Korea (the Republic of) (K. Kwon, I. Lee)
11:15AM	152188897	An Embedded System for Control of Hydroponic Nutrients and Greenhouse Environment WooJae Cho, Seoul National University, Seoul, Korea (the Republic of) (W. Cho, H. Kim, D. Jung, D. Kim, C. Kang, G. Choi)

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Monday, July 27 - 9:30AM-12:00PM

SESSION 116

FOOD SAFETY IN POSTHARVEST STORAGE

- Sponsored by PRS-703

Moderator: Ruplal Choudhary, Southern Illinois University, Carbondale, IL

LOCATION: Bonaparte- 4th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152155836	Analysis of Tuber Storage Techniques in Africa: A Review Kevin N. Nwaigwe, Federal University of Technology Owerri, Nigeria (K.N. Nwaigwe, V. Okafor, G. Asonye, J. Nwokocha)
9:50AM	152165157	Effect of high pressure on destruction kinetics of Escherichia coli (ATCC 25922) in cucumber juice Lingyan Ge, College of Biosystems Engineering and Food Science, Hangzhou, China (L. Ge, Y. Yu, R. Hosahalli, C. Wang, S. Zhu)
10:05AM	152189434	Current Maize Production Postharvest Losses and the Risk of Mycotoxins Contamination in Tanzania Rashid Suleiman, Iowa State University, Ames, IA (R. Suleiman, K.A. Rosentrater)
10:20AM	152190076	In vitro antifungal efficacy of chitosan layered liposomes containing phytochemicals against selected blueberry fruit rotting fungi Ruplal Choudhary, Southern Illinois University, Carbondale, IL (A. Umagiliyage, R. Choudhary, J. Thomson, J. Reyes, P. Kohli)
10:35AM		Break
10:45AM	152190198	Prevalence of Mold on Freshly-harvested Long-grain Pureline, Hybrid and Medium-grain Rice Cultivars Supriya Thote, University of Arkansas, Fayetteville, AR (G. Atungulu, S. Thote, H. Zhong, A.A. OKEYO)
11:00AM	152190210	Impact of Storage Duration, Temperature and Moisture Content on Mold Growth on Hybrid Rice Supriya Thote, University of Arkansas, Fayetteville, AR (S. Thote, G. Atungulu)
11:15AM	152190260	Distribution of Aflatoxin B1, B2, G1, and G2 in Various Fractions of Rice Shantae Wilson, University of Arkansas Division of Agriculture, Fayetteville, AR (H. Zhong, G. Atungulu, S. Wilson, V. Nguyen, B. Bench)

Monday, July 27 - 9:30AM-11:15AM

SESSION 117

ADVANCES IN NONDESTRUCTIVE TESTING OF AGRICULTURAL, BIOLOGICAL AND FOOD PRODUCTS

- Sponsored by PRS-701

Moderator: Igathinathane Cannayen, North Dakota State University, Fargo, ND

LOCATION: Regent- 4th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152188561	Sensing the Moisture Content of Dry Fruits - A Rapid and Nondestructive Method. Venkatkrishna C. Kandala, USDA, ARS, Dawson, GA (V.C. Kandala, R. Holser, N. Puppala)
9:50AM	152191006	Blueberry bruise detection by pulse-phase thermography and neural network Jesse D. Kuzy, University of Georgia, Athens, GA (J.D. Kuzy, C. Li)
10:05AM	152124639	Image-based Approach to Detect Bakanae Disease on Rice Seedling Yan-Fu Kuo, National Taiwan University, Taipei, Taiwan (K. Huang, S. Chen, Y. Chen, M. Lai, C. Chung, Y. Kuo)
10:20AM		Break

Monday, July 27 - 11:15AM-12:00PM

SESSION 118

ADVANCES IN CO-PRODUCT AND BYPRODUCT MANAGEMENT AND UTILIZATION

- Sponsored by PRS-707

Moderator: Kurt Rosentrater, Iowa State University, Ames, IA

LOCATION: Regent- 4th Floor

Time	Paper #	Title/Authors
10:55AM		Introduction
10:50AM	152190186	Effect of radiant drying of cranberry seeds and pomace on quality characteristics Karunanithy Chinnadurai, UW Stout, Stout, WI (K. Chinnadurai, S. Wilson, A.A. OKEYO, Z. Young, G. Atungulu)

Monday, July 27 - 9:30AM-12:15PM

SESSION 119

BIOPROCESSING FOR VALUE ADDED COPRODUCTS

- Sponsored by PRS-280, ES-01, ES-220

Moderator: Ganti Murthy, Oregon State University, Corvallis, OR

LOCATION: Iberville- 4th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152112798	A Self-sustaining Advanced Lignocellulosic Biofuel Production by Integration of Anaerobic Digestion and Aerobic Fungal Fermentation Yuan Zhong, Michigan State University, East Lansing, MI (Y. Zhong, Z. Ruan, Y. Zhong, S. Archer, Y. Liu, W. Liao)
9:50AM	152190750	Fermentative Production of 2, 3-Butanediol from Switchgrass with Bacillus licheniformis Caixia Wan, University of Missouri, Columbia, MO (C. Wan, Z. Chen)
10:05AM	152189466	Enhanced Mass Transfer in Gas Fermentation Reactors John R. Phillips, Oklahoma State University, Stillwater, OK (J.R. Phillips, H. Atiyeh, R.L. Huhnke)
10:20AM		Break
10:30AM	152188492	Enzymatic neutralization of high acid specialty oils Nurhan Dunford, Oklahoma State University, Stillwater, OK (N. Dunford, M. Xie)
10:45AM	152187697	Feasibility of utilizing sugar beet residues to produce chitosan as a value added product for food and agricultural applications Patrick Sheridan, Michigan State University, East Lansing, MI (P. Sheridan, Y. Liu)
11:00AM	152190049	Extraction of Polyphenols from Brown Algae Xin Liu, North Carolina State University, Raleigh, NC (X. Liu, W. Yuan)
11:15AM	152190155	Physical Processing and Emission Characteristics of the Crop Residue based Firelogs Dilpreet S. Bajwa, North Dakota State University, Fargo, ND (D.S. Bajwa, S.G. Bajwa, T. Wedegaertner, G. Holt)

MONDAY, JULY 27

Monday, July 27 - 2:30PM-5:00PM

SESSION 122

CURRICULUM DEVELOPMENT AND ASSESSMENT

- Sponsored by EOPC-203, EOPD-204, EOPD-205, ESH
Moderators: Richard Cavaletto, Cal Poly State Univ, San Luis Obispo, CA and Paul Weckler, Oklahoma State University, Stillwater, OK

LOCATION: LA Galleries 2- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152187502	Engineering students' perceptions and knowledge of sustainability Bhavna Sharma, ISU, Ames, IA (B. Sharma, B. Steward, S.K. Ong, F. Miguez)
2:50PM	152190238	Collaborative on-line course design for education in controlled environment animal production (eCEAP) Ann D. Christy, The Ohio State University, Columbus, OH (A.D. Christy, L. Zhao)
3:05PM	152156630	Project Based Learning: Integration across Agricultural Systems Technology Courses Michael L. Pate, Utah State University, Logan, UT (M.L. Pate, F.R. Beard, B. Miller, R. Miller, R. Hatch, K. Hall)
3:20PM	152162792	Mentoring East Asian Women Scientists and Engineers Katrina Lee, Ohio State University, Columbus, OH (K.M. Mancl, K. Lee)
3:35PM		Break
3:45PM	152188675	Development of a new course curriculum on Data Management in Precision Agriculture Ganesh C. Bora, North Dakota State University, Fargo, ND (G.C. Bora)
4:00PM	152190660	International Peer Assessment of Student Project Videos Leigh-Ann Krometis, Virginia Polytechnic Institute and State University, Blacksburg, VA (T.P. Curran, A.R. Green, F. Gentile, L. Krometis, F. Ayuga)
4:15PM	152190236	Improving the National Agricultural Safety Database through user/potential user feedback. Aaron Yoder, UNMC, Omaha, NE (A. Yoder, C. Schwab)
4:30PM	152190237	U.S. Agricultural Safety and Health Centers YouTube Channel Aaron Yoder, UNMC, Omaha, NE (A. Yoder)

Monday, July 27 - 2:30PM-5:00PM

SESSION 123

ALGAL BIOREFINERY - CHALLENGES AND OPPORTUNITIES

- Sponsored by ES-220, PRS-280
Moderator: Sudhagar Mani, University of Georgia, Athens, GA

LOCATION: LA Galleries 4- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152188797	Evaluation of a Rotating Algal Biofilm (RAB) Cultivation System Compared to a Raceway Pond Cultivation System Martin Gross, Iowa State University, Ames, IA (M. Gross, Z. Wen, K.A. Rosentrater)
2:50PM	152190736	The influence of Day-Night cycle, light intensity and CO2 enriched air flow on the growth rate and lipid productivity of Cyanobacteria in a Bubble Column Photobioreactor Kasiviswanathan Muthukumarappan, South Dakota State University, Brookings, SD (A. Jahandideh, K. Muthukumarappan)

3:05PM	152190138	Techno-Economic Analysis of Two-Stage Algae Liquefaction Technology Sudhagar Mani, University of Georgia, Athens, GA (S. Mani, Y. Qiu, J. Kastner)
3:20PM	152189269	Modeling bubble dynamics and radical kinetics in ultrasound induced microalgal cell disruption Meng Wang, North Carolina State University, Raleigh, NC (M. Wang, W. Yuan)
3:35PM	152190718	Relatively Benign Methods for Extraction of Lipids from Microalgae in Continuous Flow Mode Chandra S. Theegala, Louisiana State University, Baton Rouge, LA (J. iqbal, C.S. Theegala)
3:50PM		Break
4:00PM	152190774	Continuous Harvesting of Microalgae for High Purity Applications Using Crossflow Microfiltration Chandra S. Theegala, Louisiana State University, Baton Rouge, LA (C.S. Theegala, M. Khademi)
4:15PM	152191148	Upgrading of Bio-crude from Hydrothermal Liquefaction of Algae using Activated Carbon Supported Metal Catalysts Zhouhong Wang, Auburn University, Auburn, AL (Z. Wang, S. Adhikari, R. Shakya, P. Valdez)
4:30PM	152188838	Utilization of Off-Gas from Manure Treatment for the Improvement of Algal Biomass Yield Bo Zhang, North Carolina A&T State University, North Carolina A&T State University, Greensboro, NC (B. Zhang, L. Wang)
4:45PM	152190931	Comparison of an algal catholyte to a chemical catholyte in microbial desalination cells Beenish Saba, The Ohio State University, Columbus, OH (B. Saba, A.D. Christy)

Monday, July 27 - 2:30PM-5:00PM

SESSION 124

BIOMASS CATALYTIC AND THERMOCHEMICAL CONVERSIONS - GASIFICATION

- Sponsored by ES-220
Moderator: Ajay Kumar, Oklahoma State University, Stillwater, OK

LOCATION: LA Galleries 5- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152190354	Air Gasification of Switchgrass with Olivine as Bed Material in a Bench-scale Fluidized Bed Gasifier Avanti Kulkarni, Auburn University, Auburn, AL (A. Kulkarni, N. Abdoulmoumine, R. Baker, S. Adhikari, S. Bhavnani)
2:50PM	152188630	Electricity from Cotton Gin Trash using Fluidized Bed Gasification Walter Oosthuizen, Texas A&M University, College Station, TX (W. Oosthuizen)
3:05PM	152189925	Reforming of lignin-derived tars over char supported catalysts Kezhen Qian, Oklahoma State University, Stillwater, OK (K. Qian, A. Kumar, R. huhnke, D. Bellmer)
3:20PM	152190355	Eucalyptus Gasification and Optimization of Reactor Conditions Phillip Cross, Auburn University, Auburn, AL (P. Cross, S. Adhikari, R. Baker)
3:35PM	152190129	Thermo-chemical and biological conversion potential of various biomass feedstocks to ethanol Kyoung S. Ro, USDA-ARS, Florence, SC (K.S. Ro, M. Dienerberger, P. Bauer)
3:50PM		Break
4:00PM	152190696	Comparative performance of internal combustion engine using biomass producer gas and natural gas as fuels Ajay Kumar, Oklahoma State University, Stillwater, OK (P.R. Bhoi, A. Kumar, R. huhnke)

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4:15PM	152163658	Development of a Charcoal Slurry for Compression Ignition Internal Combustion Engines John M. Long, Oklahoma State University, Stillwater, OK (J.M. Long, M.D. Boyette)
4:30PM	152189888	Fast Pyrolysis of Eastern Red Cedar Sapwood and Heartwood in Various Reactors Zixu Yang, Oklahoma State University, Stillwater, OK (z. Yang, A. Kumar, R. huhnke, M.D. Buser, S.C. Capareda)
4:45PM	152189600	Influence of different ventilation on gaseous emission and particulate matter of a biomass semi-gasifier stove Yuguang Zhou, China Agricultural University, Beijing, China (Z. Zhang, Y. Zhou, Y. Zhang, R. Ahmad, R. Dong)

Monday, July 27 - 2:30PM-5:15PM

SESSION 125

SUSTAINABLE BIOMASS FEED-STOCK SUPPLY LOGISTICS SYSTEM

- Sponsored by ES-220, PRS-280, MS- 23/7/1

Moderator: Sudhagar Mani, University of Georgia, Athens, GA

LOCATION: LA Galleries 6- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152187779	Land identification and spatial distribution of biomass energy potential along Illinois state highways Sijie Shi, Department of Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign, Urbana, IL (S. Shi, W. Liao, L. Rodriguez, T. Lin, H.P. Blaschek)
2:50PM	152187503	An integrated GIS and mathematical model for optimal siting of bioethanol plants in the U.S. Bhavna Sharma, ISU, Ames, IA (B. Sharma, S. Birrell, F. Miguez)
3:05PM	152183808	Resiliency considerations in biomass to biofuel supply chain optimization Yogendra Shastri, Indian Institute of Technology, Bombay, Mumbai, India (P. Maheshwari, S. Singla, Y. Shastri)
3:20PM	152189420	A Laboratory Scale Reactor for Simulating Biomass Storage for Bioenergy Ian J. Bonner, Idaho National Laboratory, Idaho Falls, ID (I.J. Bonner, M. Delwiche, L. Wendt, W. Smith)
3:35PM		Break
3:45PM	152190048	Techno-economic Assessment of Pipeline Hydro-transport of Agricultural Residue Biomass based on Experimental Measurements Mahdi Vaezi, University of Alberta, Edmonton, Canada (M. Vaezi, A. Kumar)
4:00PM	152182737	Woody Biomass Feedstock Harvesting from a Hybrid Poplar Plantation with Traditional Ground-Based Harvesting Equipment Zach Carter, Michigan State University, East Lansing, MI (Z. Carter, F. Pan)
4:15PM	152189193	Estimation of Pavement Damage Due to Feedstock Transportation for Cellulosic Biorefineries Nawa Raj Baral, The Ohio State University, Wooster, OH, United States (N. Baral, A. Shah)
4:30PM	152190359	Comparison of giant reed and miscanthus as feedstocks for bioenergy and bioproducts Xumeng Ge, The Ohio State University, Wooster, OH (X. Ge, F. Xu, Y. Li)

Monday, July 27 - 2:30PM-5:15PM

SESSION 126

DIELECTRIC PROPERTIES AND SENSING APPLICATIONS

- Sponsored by ITSC-330

Moderator: Samir Trabelsi, USDA, Athens, GA

LOCATION: Mardi Gras A- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152190948	Microwave Sensing of Moisture Content and Bulk Density in Flowing Grain Samir Trabelsi, USDA, Athens, GA (S. Trabelsi, M.A. Lewis, S.O. Nelson)
2:50PM	152189958	Real-Time Monitoring of Drying Parameters in Semi-Trailers during Peanut Drying Micah A. Lewis, USDA ARS, Athens, GA (M.A. Lewis, S. Trabelsi, S.O. Nelson)
3:05PM	152190017	Testing of Handheld Grain Moisture Meters on Shelled and Whole Pod Peanuts Jacob P. Koch, Clemson University, Blackville, SC (J.B. Fravel, K.R. Kirk, J.P. Koch, A.C. Warner, H.F. Massey, A.M. Coleman)
3:20PM	152187143	Microwave moisture measurements of flowing biomass Murat S. McKeown, The University of Georgia, Athens, GA (M.S. McKeown, S. Trabelsi, E.W. Tollner)
3:35PM		Break
3:45PM	152160026	Moisture Content and Bulk Density Prediction Using Dielectric Properties for Switchgrass and Corn Stover Augusto Souza, Iowa State University, Ames, IA (A. Souza, S. Birrell, B. Steward, S. Kshetri)
4:00PM	152190197	Two Approaches to Measure Moisture Content and Mass Flow of Woodchips in Real-time Using Capacitance Based Sensor Pengmin Pan, Auburn University, Auburn, AL (P. Pan, T. McDonald, J. Fulton, B. Via, J. Hung)
4:15PM	152190968	Assessing the Value of Low Cost Versus High Cost Soil Moisture Sensors Samuel Noel, Purdue University, Lafayette, IN (S. Noel, D. Buckmaster, J. Krogmeier, A. Ault, D. Hackney)
4:30PM	152190255	Dielectric Study of Bacillus cereus Spores at Microwave Frequency Yong Wei, Tianjin Agricultural University, Manhattan, KS (Y. Wei)

Monday, July 27 - 2:30PM-5:15PM

SESSION 127

AGRICULTURAL APPLICATIONS OF OPTIMIZATION AND HEURISTICS

- Sponsored by ITSC-210, ITSC-200, MS-54

Moderator: Mario Mondaca, University of Wisconsin, Madison, WI

LOCATION: Mardi Gras B- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152182705	A multi-year simulation study of optimal and sub-optimal irrigation of maize in Kansas Raphael Linker, Technion - Israel Institute of Technology, Haifa, Israel (R. Linker, I. Ioslovich)
2:50PM	152189856	Uncertainty of Influence Factors for Farm Machinery Operation Scheduling Caicong Wu, College of Information and Electrical Engineering, China Agricultural University, Beijing, TX, China (C. Wu, L. Zhou, J. Zhao, J. Wang)
3:05PM	152189222	Optimal Path Planning Using NSGA II Hasan Seyyedhasani, University of Kentucky, Lexington, KY (H. Seyyedhasani, J. Dvorak)

MONDAY, JULY 27

3:20PM	152189686	Application and Validation of a 3D Finite Element Model for Phosphine Fumigation of a Wheat Silo Under Australian Conditions Benjamin Plumier, Kansas State University, Manhattan, KS (B. Plumier, D. Maier, J.M. Boac, M. Casada, J. Lawrence)
3:35PM		Break
3:45PM	152188089	GPU-based Parallelization of a Sub-pixel High-resolution Stereo Matching Algorithm for High-throughput Biomass Sorghum Phenotyping Yin Bao, Iowa State University, Ames, IA (Y. Bao, L. Tang, P.S. Schnable, M.G. Salas Fernandez)
4:00PM	152184623	Acquisition of Planter Performances Metrics during Field Operation and Their Relation to Spatial Variability Aurelie M. Poncet, Auburn University, Auburn, AL (A.M. Poncet, S. Virk, J. Fulton, T. McDonald, R. Bridges, G. Pate)
4:15PM	152169335	Canopy Structure and Evaporation Effect to the Spray Penetration and Deposition Qing Tang, Beijing Research Center of Intelligent Equipment for Agriculture, Beijing, China (Q. Tang, L. Chen, G. Xu, R. Zhang, M. Xu)
4:30PM	152184507	FD-Sensor for Stem water content of herbaceous plants Peter Schulze Lammers, University of Bonn, Bonn, Germany (P. Schulze Lammers)
4:45PM	152141175	Optimal selection and placement of BMPs and LID practices with L-THIA-LID 2.1 model Yaoze Liu, Purdue University, West Lafayette, IN (Y. Liu, R. Cibin, V. Bralts, I. Chaubey, B. Engel)

Monday, July 27 - 2:30PM-5:00PM

SESSION 128 AGRICULTURAL ROBOTICS AND AUTOMATION SYSTEMS - Sponsored by ITSC-318

Moderator: Yan-Fu Kuo, National Taiwan University, Taipei, Taiwan

LOCATION: Mardi Gras C- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152183106	An Iterative Learning PID Controller and its Application to a Terrain Simulator Yu Cao, University of Saskatchewan, Saskatoon, Canada (Y. Cao, C. Bigsby, J. Griffith, J. Schnaider, D. Chen)
2:50PM	152188220	Application of Microcontroller interfaced with DGPS for Variable Rate Fertilizer Applicator Virendra K. Tewari, IIT Kharagpur, Kharagpur, India (V.K. Tewari)
3:05PM	152189750	Navigation Strategies for a Vineyard Robot Francisco Rovira-Más, Polytechnic University of Valencia, Valencia, Spain (F. Rovira-Más, C. Millot, V. Saiz-Rubio)
3:20PM	152189909	Robot-generated Grid Maps for Decision-making In Vineyards Veronica Saiz-Rubio, Agricultural Robotics Lab. (ARL) Polytechnic University of Valencia, Valencia, Spain (V. Saiz-Rubio, F. Rovira-Más, P. Broseta-Sancho, R.A. Aguilera-Hernandez)
3:35PM	152190495	Statistical Comparison of the GreenSeeker NDVI Scanner to NIR Camera System Could the NIR Camera Replace the GreenSeeker for Some Applications Charles Malveaux, Louisiana State University, Baton Rouge, LA (C. Malveaux, R. Price, S. Hall)
3:50PM		Break
4:00PM	152188039	Obstacle Detection and Tracking for Off-Road Vehicles Using Stereo Vision and Radar Sensor Fusion Ta-Te Lin, National Taiwan University, Taipei, Taiwan (L. Weng, A. Tsai, T. Lin)

4:15PM	152189376	Preliminary study of peanut canopy profiles using ground LiDAR sensing technology Ning Wang, Oklahoma State University, Stillwater, OK (J. Ma, N. Wang, R.S. Bennett, K.D. Chamberlin)
4:30PM	152189340	Guidance Algorithms for Multiple Cooperative Autonomous Aquatic Vehicles Daniel D. Smith, Louisiana State University, Baton Rouge, LA (D.D. Smith, S. Hall)
4:45PM	152191016	Field Trials of Natural Air/Low Temperature In-Bin Drying System in North West of Italy. Working Capacity and Energy Consumption Remigio Berruto, University of Turin, DISAFA Dept., Largo Braccini 2, 10095 Gruglisco (TO), Italy (R. Berruto, A. Sopegno, p. busato, D. De la Torre, R. Bartosik)

Monday, July 27 - 2:30PM-5:15PM

SESSION 129 TED MCKYES MEMORIAL SESSION ON SOIL COMPACTION - Sponsored by

MS-45, MS-42, MS-43

Moderators: Andrew Klopfenstein, Ohio State University, Haviland, OH and Carol Plouffe, Deere & Company, Moline, IL

LOCATION: Mardi Gras D- 3rd Floor

Time	Paper #	Title/Authors
2:30PM	152209482	Contributions of Dr. Ted McKyes to Advances in Soil Compaction G. S. V. Raghavan, McGill Univ, Ste-Anne-De-Bellevue, Canada (G. Raghavan)
3:00PM	152147258	Soil Compaction: Industry perspective Carol Plouffe, Deere & Company, Moline, IL (C. Plouffe, M. Tekeste)
3:15PM	152179891	Application of Automatic Air Inflation-Deflation Control System on a Manure Tanker to Prevent Excessive Soil Compaction Ahmad Mohsenimanesh, University of Ottawa, Ottawa, Canada (A. Mohsenimanesh, C. Lague)
3:30PM	152179950	Agricultural tractor fuel efficiency with different tire configurations Nohoon Ki, John Deere, Waterloo, IA (N. Ki, M. Tekeste, B. Strawinski, T. Duncan, A. Varghese)
3:45PM		Break
3:55PM	152182426	Soil stress state orientation at two locations beneath a tractor drive tire Thomas Way, USDA-ARS National Soil Dynamics Lab, Auburn, AL (T. Way, T. Kishimoto, M. Tekeste)
4:10PM	152189560	Estimating the Impact of Machine Mass on the Productivity of US Farms and Validating in Field Scale Trials Andrew Klopfenstein, Ohio State University, Haviland, OH (A. Klopfenstein, D. Wolters, B.A. Schroeder, S.A. Shearer)
4:25PM	152192081	Estimations and Measurements of Carcass Stiffness of Agricultural Types on a Hard Surface Paula A Misiewicz, Harper Adams University, Milton Keynes, Bucks, United Kingdom (P.A. Misiewicz, R. Godwin)
4:40PM	152208103	Effects of Soil Compaction by Wheel Traffic on Soybean Growth, Development and Yield Saravanan Sivarajan, North Dakota State University, Fargo, ND (S. Sivarajan, M. Maharlooei, S.G. Bajwa, J. Nowatzki)

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Monday, July 27 - 2:30PM-5:15PM

SESSION 130

HARVEST TECHNOLOGY - Sponsored by MS-42, MS-43

Moderator: Mark Hanna, Iowa State University, Ames, IA

LOCATION: Mardi Gras E- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152190003	Peanut Digging Loss Analysis for Three Different Depth Control Methods Andrew C. Warner, Clemson University, Blackville, SC (A.C. Warner, K.R. Kirk, J.S. Thomas, J.W. White, J.S. Peele, J.D. Mueller, H.F. Massey, Y.J. Han)
2:50PM	152190009	Peanut Digging Losses Across Soil Moisture Contents Kendall R. Kirk, Clemson University, Blackville, SC (K.R. Kirk, A.C. Warner, J.S. Thomas, J.W. White, J.S. Peele, H.F. Massey)
3:05PM	152191061	Logistical Modeling and Simulation of Modern Grain Harvesting Systems Scott A. Shearer, The Ohio State University, Columbus, OH (D. Wolters, B.A. Schroeder, A. Klopfenstein, S.A. Shearer)
3:20PM		Break
3:30PM	152189141	DESIGN AND EVALUATION OF SELF PROPELLED REAPER FOR HARVESTING MULTI CROPS Muhammad Nadeem, Dalhousie university, Truro, Canada (M. Nadeem, M. Iqbal, A.A. Farooque, A. Munir, M. Ahmad, Q. Zaman)
3:45PM	152184734	Design and Fabrication of Hydro-Separating Cowpea Dehuller Joshua O. Olaoye, University of Ilorin, Ilorin, Nigeria (J.O. Olaoye)
4:00PM	152189917	Design and Experiment of Differential Speed Snapping Rollers for Horizontal-Roller Corn Harvester Gang Wang, School of Biological and Agricultural Engineering, Jilin University, Changchun, China (G. Wang, H. Jia)

Monday, July 27 - 2:30PM-5:15PM

SESSION 131

BIOMASS FEEDSTOCK SUPPLY LOGISTICS AND MODELING - Sponsored by MS-23/7/2

Moderator: Brian Luck, University of Wisconsin-Madison, Madison, WI

LOCATION: Mardi Gras F- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152182459	Field data on variability in bale density vs. the observed and predicted productivity of harvest and handling equipment Shahab Sokhansanj, Oak Ridge National Lab, North Vancouver, Canada (S. Sokhansanj, E.G. Webb, S. Thomas, T. Clark, K. Comer)
2:50PM	152188741	Least Cost Machinery Analysis for Two Different Biomass Collection Methods Ambika Karkee, ISU, Ames, IA (A. Karkee, S. Birrell)
3:05PM	152189740	Investigation of Harvest Methods, Transportation and Storage of Sugarcane Palha (trash) for Ligno Cellulosic Conversion. John F. Larsen, BP Biofuels, Houston, TX (J.F. Larsen)
3:20PM	152188826	Fractionation of Corn Stover with effective shredding and separation Jiechao (Simon) Ma, Purdue University, West Lafayette, IN (J. Ma, D. Buckmaster, N. Mosier, k. johnson, s. donkin)

3:35PM 152189812 **Analysis of Biomass Harvest Systems using the Integrated Biomass Supply and Logistics Model to make implementation recommendations and future development work.**

Ed Brokesh, Kansas State University, Manhattan, KS (E. Brokesh)

Break

3:50PM 4:00PM 152189876 **Addressing fire risk in biomass handling and storage**
Erin G. Webb, Oak Ridge National Laboratory, Oak Ridge, TN (E.G. Webb)

4:15PM 152190740 **BioMODS – BioMass Optimized Delivery System**
Kevin Shinnars, Univ. of Wisconsin, Madison, WI (K. Shinnars, J.D. Orrick, S. Searcy)

4:30PM 152190878 **Storage cost of biomass bales for a large-scale biorefinery**
Sudhagar Mani, University of Georgia, Athens, GA (S. Mani, K. Sahoo)

4:45PM 152190002 **Pipeline Hydro-transport of Agricultural Residue and Wood Chips Biomass; A Comparative Study**
Mahdi Vaezi, University of Alberta, Edmonton, Canada (M. Vaezi, A. Kumar)

5:00PM 152190193 **Sugar retention in ensiled industrial-beet tissue**
Juan M. Vargas-Ramirez, North Dakota State University, Fargo, ND (J.M. Vargas-Ramirez, A.K. Pothula, I. Cannayen, S.W. Pryor, D. Haagenson, D. Wiesenborn)

Monday, July 27 - 2:30PM-5:00PM

SESSION 132

VARIABLE RATE TECHNOLOGY FOR PRECISION AGRICULTURE -

Sponsored by MS-54

Moderator: Ajay Sharda, Kansas State University, Manhattan, KS

LOCATION: Mardi Gras H- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152161483	Development of a Spinner-Disc Spreader System to Apply Litter Amendments in Broiler Houses Xufei Yang, University of Delaware, Newark, DE (X. Yang, H. Li, C. Zhang)
2:50PM	152188242	Spread Pattern Analysis of a Single Disc Fertilizer Applicator Cheol-Woo Han, Gyeongsang National University, Jinju, Korea (the Republic of) (C. Han, H. Park, Y. Hong, D. Lee, G. Kweon)
3:05PM	152171467	Constant pressure control for variable-rate spray using closed-loop PID regulation Wei Deng, Beijing Research Center for Information Technology in Agriculture, Beijing, China (W. Deng, C. Zhao, X. Wang, J. Zhou)
3:20PM	152188667	Nozzle-Level Sprayer Flow Rate Measure with Low Cost Turbine Flow and Pressure Sensor Yongbo Wan, University of Kentucky, Lexington, KY (Y. Wan, T. Stombaugh)
3:35PM		Break
3:45PM	152189633	Analyzing Dynamic Spray Fan Pattern (SFP) Coverage with High Speed Imaging to Simulate Ground Coverage of a Pulse Width Modulated Sprayer Devin L. Mangus, Kansas State University, Manhattan, KS (D.L. Mangus, A. Engelhardt, A. Sharda, D. Flippo, R. Strasser, J.D. Luck)
4:00PM	152189076	Economic Analysis for Smart Sprayer Application in Wild Blueberry Fields Travis Esau, Dalhousie University, Halifax, Canada (T. Esau, Q. Zaman, D. Groulx, K. Corscadden, Y. Chang, A. Schumann, P. Havard)

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4:15PM	152189139	Effect of Split Variable Rate Fertilization on Wild Blueberry Plant Growth and Berry Yield Asif Abbas, Department of Engineering, Faculty of Agriculture, Dalhousie University, Truro, Canada (A. Abbas, Q. Zaman, A. Schumann, G. Brewster, A.A. Farooque, R. Donald, M.W. Jameel)
4:30PM	152190023	Design and Testing of a Depth Gauge Controller for Peanut Digging Angle Adjustment Andrew C. Warner, Clemson University, Blackville, SC (A.C. Warner, K.R. Kirk, J.S. Thomas, J.W. White, J.S. Peele, J.D. Mueller, H.F. Massey, Y.J. Han)

Monday, July 27 - 2:30PM-4:00PM

SESSION 133

NATURAL RESOURCES AND ENVIRONMENTAL SYSTEMS DISTINGUISHED LECTURE SERIES

Moderator: Matt Helmers, Iowa State University
LOCATION: LA Galleries 3- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction to NRES Distinguished Scholar Series Matt Helmers, Dean's Professor & Associate Chair, Iowa State University
2:40PM		Navigating a Research Program Through the Emerging Stream of Ecological Engineering Scott Osborn, Associate Professor, University of Arkansas
3:10PM		A Decade of Research in Landscape Irrigation Water Requirements and Conservation Strategies Michael D Dukes, Professor & Director, Center for Landscape Conservation & Ecology, University of Florida
3:40PM		Antimicrobial Resistance: Occurrence, Fate, and Transport in Tile-Drained Agricultural Fields Michelle L. Soupir, Associate Professor, Iowa State University

Monday, July 27 - 4:00PM-5:30PM

SESSION 134

NATURAL RESOURCES ENVIRONMENTAL SYSTEMS POSTER SESSION - Sponsored by NRES-21, NRES-22, NRES-23, NRES-24, NRES-25, NRES-26, NRES-27

Moderator: Matthew Helmers, Iowa State University, Ames, IA
LOCATION: Exhibit Hall- 2nd Floor

Poster #	Paper #	Title/Authors
1	152120948	Viability of <i>Jatropha curcas</i> (Euphorbiaceae) seeds in different stages of physiological maturity Kever Bruno P. Gomes, Federal Institute of Education, Science and Technology of Brasília, Brasília, Brazil (K.P. Gomes, R. Martins)

POSTER INFORMATION

Size of poster boards: 91 inch wide by 44.5 inch deep
Mount poster using push pins

Posters must be removed no later than 15 minutes after the session.

PLEASE NOTE: Those not removed by presenter will be removed by staff and disposed of at the end of the day.

2	152154853	Modeling Hydrolysis of Selected Neonicotinoid Insecticides Nidhi M. Modha, California State University, Fullerton, CA (N.M. Modha, N. Teixeira Gomes, A. Evans, S.T. Kurwadkar)
3	152181370	Application of surface roughness engineering principles to optimize benthic algae biofilm colonization and biomass characteristics MANJINDER KAUR, Department of Biosystems Engineering, Auburn University, Auburn, AL (M. KAUR, D.M. Blerch, A. Carrano, K. Kardel)
4	152182508	Hydrologic and Water Quality Impacts of Climate and Land Use Changes in South Dakota Laurent M. Ahiablame, South Dakota State University, Brookings, SD (M. Paul, L.M. Ahiablame, M. Rajib)
5	152182529	Contemporary streamflow trends under climate variability and land use change in South Dakota Laurent M. Ahiablame, South Dakota State University, Brookings, SD (K. Kibria, L.M. Ahiablame)
6	152188740	Evaluating the Landscape Scale Impacts of Using Traditional and Multi-Paddock Grazing on Runoff, Sediment and Nutrient Losses Jong-Yoon Park, Texas A&M AgriLife Research, Vernon, TX (J. Park, S. Ale, R. Teague, J. Jeong)
7	152188866	A re-circulating flow-lane photo incubator for benthic algae experiments John Rains, Auburn University, Auburn, AL (J. Rains, D.M. Blerch)
8	152189361	Improving Drainage System Design in Bioretention Areas for Optimal Performance Michelle Wood-Ramirez, Texas A&M University, Dallas, TX (M. Wood-Ramirez, F. Jaber)
9	152189500	Effects of desalinated water irrigation on crop growth and yields Jihye Jeon, Seoul National University, Pyeongchang-gun, Korea (the Republic of) (J. Jeon, H. Kim, H. Jeong, S. Park, J. Choi)
10	152189840	Instrumentation for Full-year Plot-scale Runoff Monitoring Kenneth A. Sudduth, USDA-ARS, Columbia, MO (K.A. Sudduth, C. Baffaut, S. Drummond, J. Sadler)
11	152190047	Impacts of Flooding on Forested Headwater Streams Whitney C. Blackburn-Lynch, University of Kentucky, Lexington, KY (W.C. Blackburn-Lynch, C.T. Agouridis, C. Barton, R. Warner)
12	152190794	Community-Based Approaches to Addressing Agroecological Integrated Systems in the Brazilian Amazon Rainforest Jaime Thissen, University of Illinois Urbana Champaign—Department of Agricultural & Biological Engineering, Urbana, IL (J. Thissen, K. Lowell, L. Clark, V. Rivera Quiñones)
13	152190885	Test Plants that can grow in the Modular Living Wall Rochelle Mesubed, NC A&T State University, Greensboro, NC (R. Mesubed, S. Creason, J. Cantrell, C. Cardwell, G. Gayle, M.R. Reyes)
14	152190952	Influence of moisture content on solid state anaerobic digestion of separated solid swine manure Heekwon Ahn, Chungnam National University, Daejeon, Korea (the Republic of) (S. Lee, E. Kim, J. Lee, H. Ahn)
15	152190959	EPA's AP-42 Development Methodology Using a Cotton Gin Total Particulate Matter Dataset Michael D. Buser, Oklahoma State University, Stillwater, OK (T. Moore, M.D. Buser, D. Whitelock, J.D. Wanjura, D.W. Hamilton)
16	152190967	EPA's AP-42 Development Methodology: Converting or Rerating Current AP-42 Datasets? Michael D. Buser, Oklahoma State University, Stillwater, OK (T. Moore, M.D. Buser, D. Whitelock, J.D. Wanjura, D.W. Hamilton)

17	152190969	Should Particle Size Analysis Data be Combined with Data Gathered Using Other EPA Methods for Development of AP-42 Emission Factors? Michael D. Buser, Oklahoma State University, Stillwater, OK (T. Moore, M.D. Buser, D. Whitelock, J.D. Wanjura, D.W. Hamilton)	32	152188319	Design and Optimization of Throwing-device on EDEM Tengfei Li, China Agricultural University, Beijing, China (H. Wu, D. Wang, Z. Gong, x. zhang, Q. Wan, G. Wang, T. Li)
18	152190989	Conservation agriculture in Urban Landscapes Don Immanuel A. Edralin, North Carolina A & T State University, Greensboro, NC (D.A. Edralin, M.R. Reyes)	33	152188864	Optimization design of self-propelled forage silage harvester's frame Hongjian Wu, China Agricultural University, Beijing, China (H. Wu, D. Wang, Z. Gong, Q. Wan, G. Wang)
19	152190982	A Software to Evaluate the Center Pivot Hydraulic Operation Joao Saad, Sao Paulo State University - UNESP, Botucatu, Brazil (R. Ludwig, J. . Saad)	34	152188911	Plant Soybean Seed Thresher -the Design of the Major Part Tengfei Li, China Agricultural University, Beijing, China (X. Bai, G. Wang, Z. Wang, D. Wang, x. zhang, T. Li)
20	152189850	Comparing Agricultural Field Characteristics to Different Levels of Irrigation Control Keith Miller, University of Nebraska-Lincoln, Battle Creek, NE (K. Miller, J.D. Luck)	35	152189778	Removed Yongkui Fan, China Agricultural University, Beijing , China (Y. Fan, D. Wang)
21	152176002	Effects of irrigation water salinity on tomato production under protected environment Jacinto d. Carvalho, Universidade Federal de Lavras - UFLA, Lavras, Brazil (J.d. Carvalho, M.A. Viol, E.M. Lima, L.A. Gomes)	36	152190320	Quantitative relationship between biofilms components and emitter clogging parameters using re-claimed water Bo Zhou, China Agricultural University, Beijing, IN, China (B. Zhou, Y. Li, Y. Pei, Y. Jiang, V. Bralts)
22	152187213	Production of tomato under water deficit Miguel A. Viol, Universidade Federal de Lavras - UFLA, Lavras, Brazil (M.A. Viol, J.d. Carvalho, E.M. Lima, R.W. Mattos, J.M. Rodrigues)	37	152189869	Hydraulic Controls on Hyporheic Exchange in Restored and Natural Systems: A Review Matthew Burnette, University of Kentucky, Lexington, KY (M. Burnette, C.T. Agouridis)
23	152187078	Economic analysis of tomato production irrigated in protected environment Miguel A. Viol, Universidade Federal de Lavras - UFLA, Lavras, Brazil (M.A. Viol, J.d. Carvalho, E.M. Lima, A.L. Dourado, F.C. Rezende)	38	152180833	Development of a GIS-based spatially distributed Clark's unit hydrograph method (Distributed-Clark) for runoff routing Younghyun Cho, Purdue University, West Lafayette, IN, United States (Y. Cho, B.A. Engel)
24	152188920	Comparison of plant growth and nitrogen uptake of maize under drip irrigation applying treated sewage effluent and groundwater Jiusheng Li, China Institute of Water Resources and Hydropower Research, Beijing, China (J. Li, L. Guo, Y. Li)	39	152189163	Simplified Landscape Irrigation Demand Estimation: SLIDE Rules Roger Kjellgren, Utah State University, Logan, UT (R. Kjellgren, R. Beeson, D. Pittenger, T. Montague)
25	152189588	Effects of lateral depth on transport of E. coli in soil and maize production for subsurface drip irrigation system applying treated sewage effluent Jiusheng Li, China Institute of Water Resources and Hydropower Research, Beijing, China (J. Li, Z. Qiu, W. Zhao)	40	152190105	Estimation of Crop Coefficient and Actual Evapotranspiration using Remote Sensing Arturo Reyes-Gonzalez, South Dakota State University, Brookings, SD (A. Reyes-Gonzalez, C. Hay, J. Kjaersgaard, C. Neale)
26	152188932	Influence of Variable Rate Irrigation on Growth and Yield of Winter Wheat in the Alluvial-proluvial Plain Jiusheng Li, China Institute of Water Resources and Hydropower Research, Beijing, China (J. Li, R. Yang, W. Zhao)	41	152180549	Land Use/ Land Cover Change Impact on Runoff Depth of Contiguous United States based on L-THIA Tabular Tool Jingqiu Chen, Purdue University, West Lafayette, IN (J. Chen, L. Theller, B. Engel, Y. Cho)
27	152185937	Spread and evaporation characteristics of droplets with surfactant on Eucalyptus leaves Zhicheng Jia, Nanjing Forestry University, Nanjing, FL, China (H. Lin, L. Xu, X. Jiang, H. Zhang, Z. Jia)	42	152190619	Estimation of Leaf Area Index and Biomass Production of Soybean from Spectral Indices of Vegetation Marcos A. Silva, State University of Bahia, Barreiras, Brazil (M.A. Silva, A.N. Silva, W.P. Ferreira, T.K. Souza, C.C. Santana)
28	152189370	The impact of different cultivation methods on nutrient content of organic seedless grape Halis Simsek, North Dakota State University, Fargo, ND (B. Yagmur, F. Ates, G.C. Bora, H. Simsek)	43	152189304	Development and Application of a Decision Support System for Optimizing Cropping Patterns under Saline Agriculture Conditions in Rechna Doab, Pakistan Jan Adamowski, McGill University, Ste Anne de Bellevue, Canada (J. Adamowski, M. Inam, P. Shiv)
29	152189952	A Review of Economics and Environmental Footprints of Lignocellulosic Biomass Thermochemical Conversion Technologies Madhumita Patel, University of Alberta, Edmonton, Canada (M. Patel, X. Zhang, A. Kumar)	44	152189864	An Open Source Geospatial Modeling Interface (GMI) for Applying and Evaluating Natural Resource Models James C. Ascough, USDA-ARS, ASRU, Fort Collins, CO (J.C. Ascough, N.P. Lighthart, O. David)
30	152190727	Quantifying the Impacts of Tillage on Cover Crop Growth, Nitrogen Uptake, Soil Moisture, and Soil Temperature Emily R. Waring, Iowa State University, Ames, IA (E.R. Waring)	45	152182505	CRAFT for crop production forecasting, risk analysis and climate change impact studies Vaishali Sharda, Washington State University, Manhattan, KS (V. Shelia, V. Sharda, J. Hansen, C. Porter, P. Aggarwal, G. Hoogenboom)
31	152147184	Study on Rice Production Mechanization and Profits of Chiang Rai Province in Thailand Phakwipha Sutthiwaree, China Agricultural University, Beijing, China (P. Sutthiwaree, M. Yang)	46	152188742	A coupled SWAT-MODFLOW model to evaluate the effects of management practices on surface-ground-water Xiaojing Ni, Mississippi State University, Starkville, MS (X. Ni, P.B. Parajuli)

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| 47 | 152189519 | Temporal and spatial changes of the glaciers and snow coverages in the Rongbuk basin of Tibetan Plateau
Fei Chen, College of Water Resources and Civil Engineering, China Agricultural University, Beijing, China (F. Chen, Q. Cai, L. Sun, T. Lei) | 63 | 152189386 | Simulating Effects of Drainage Water Management on Water and Nitrogen Footprints with RZWQM2
Linda Schott, Iowa State University, Ames, IA (K. Craft, L. Schott, C. Pederson, M.J. Helmers) |
| 48 | 152189676 | Rainfall Thresholds for Abrupt Landslide Occurrence Using Probabilistic Stability Analysis
Seong-Pil Kim, Seoul National University, Pyeongchang, Korea (the Republic of) (S. Kim, S. Bae, W. Bae, J. Heo) | 64 | 152189488 | Effect of Drought on Corn (Zea Mays L.) Yield in North Dakota, USA
Halis Simsek, Department of Agricultural and Biosystems Engineering, North Dakota State University, Fargo, ND (N. Leelaruban, H. Simsek, M.S. Odabas, A. Akyüz, G. Padmanabhan) |
| 49 | 152189683 | Evaluation of Potential Flash Flood Risk in Agricultural Facility
Soo-jin Kim, Seoul National University, Pyeongchang, Korea (the Republic of) (S. Kim, Y. Bae, S. Bae, H. Kim, I. Seo, W. Bae, S. Kim) | 65 | 152190828 | Index of Drought and Cotton Production in the Barreiras (Western of Bahia)
Marcos A. Silva, Universidade do Estado da Bahia, Barreiras, Brazil (M.A. Silva, F.M. Passos, R.B. Almeida, A.N. Silva, C.C. Santana, T.K. Souza) |
| 50 | 152190800 | Drouth Events Analysis for the Western Bahia Region Based on Collected and Reanalysis Datasets
Marcos A. Silva, Universidade do Estado da Bahia, Barreiras, Brazil (M.A. Silva, C.C. Santana, L.D. Menezes, W.P. Ferreira) | 66 | 152190999 | A review of the Technical Approaches used for TMDLs Development in Mississippi
Juan D. Pérez-Gutiérrez, Mississippi State University, Starkville, MS (J.D. Pérez-Gutiérrez, J.L. Martin, J.J. Ramirez-Avila) |
| 51 | 152190996 | Subregional Relationship of IOD and ENSO with ISMR and EREs for the period 1951-2007
Sumit Sen, Indian Institute of Technology Roorkee, Roorkee, India (S. Raghuwanshi, S. Sen) | 67 | 152191005 | The effectiveness of woodchip bioreactors to remove selenium from tile drain water in Eastern South Dakota
Cynthuja Partheeban, South Dakota State University, Brookings, NC (C. Partheeban, J. Kjaersgaard, M. Schwarz) |
| 52 | 152181806 | Predicting hydrologic response at the landscape scale when streams are included in valley-fill design
Leslie Hopkinson, WVU, Morgantown, WV (L. Hopkinson, A. Sears) | 68 | 152152644 | Basin of Evapotranspiration: Treatment of Domestic Wastewater and Food Productions
Gilmar Tavares, Federal University Lavras UFLA, Lavras, Brazil (A.M. Benjamin, A.C. Neri, F.C. Gomes, G. Tavares) |
| 53 | 152186307 | Geothermal Heat Exchange Research in Wisconsin
Matthew K. Harper, University of Wisconsin-Madison, Madison, WI (M.K. Harper, C.Y. Choi) | 69 | 152163962 | Causes and Implications of Large Particle Penetration during PM10 Sampling
William Faulkner, Texas A&M University, College Station, TX (W. Faulkner) |
| 54 | 152188680 | Two-stage ditch scenarios and its future role as a best management practice
Andi Hodaj, Purdue University, West Lafayette, IN (A. Hodaj, L.C. Bowling, J. Frankenberger, I. Chaubey) | 70 | 152170836 | Batch anaerobic digestion of five different livestock manures: Biogas productivity and fertilizer composition
Lide Chen, University of Idaho, Twin Falls, ID (G.K. Kafle, L. Chen) |
| 55 | 152189313 | Application of modified DRASTIC and SWAT to evaluate integrated aquifer vulnerability in the Midwestern, United States
Wonseok Jang, Purdue University, West Lafayette, IN (W. Jang, B. Engel) | 71 | 152187873 | Modeling Cumulative Methane Volume Produced in Anaerobic Co-Digestion of Poultry Litter and Wheat Straw using Developed Novel General Gompertz Models
Jiacheng Shen, university of arkansas, Fayetteville, AR (J. Shen, J. Zhu) |
| 56 | 152191035 | Assessing Impacts of Climate Change on Water Quantity and Quality in an Agricultural Watershed in Southern Ontario
Golmar Golmohammadi, University of Guelph, Guelph, Canada (R. Rudra, G. Golmohammadi, P. Goel) | 72 | 152188719 | Egg-shell based catalyst for adsorption of p-cresol
lalitendu das, North Carolina State University, Raleigh, NC (G. Wakchaure, I. das, P. Kolar) |
| 57 | 152189894 | Development of a Methodology to Determine Antibiotic Concentrations in Runoff Samples
Tahnee Qualls, University of Kentucky, Lexington, KY (T. Qualls, C.T. Agouridis, M. Kulshrestha) | 73 | 152189209 | Considerations for the use of manure irrigation practices in Wisconsin
Yifan Liang, University of Wisconsin-Madison, Madison, WI (Y. Liang, R. Larson, C.Y. Choi) |
| 58 | 152190765 | Evaluation of the AquaCrop Model for simulation of maize growth and yield in central Uganda
Nicholas Kiggundu, Makerere University, Kampala, Uganda (N. Kiggundu, T. Mibulo) | 74 | 152189216 | Determination of the Anaerobic Volatile Solids Reduction Ratio of Animal Manure Using a Bench Scale Batch Reactor
John P. Chastain, Clemson University, Clemson, SC (J.P. Chastain, W.B. Smith) |
| 59 | 152156680 | A Slow-Release, Non-Polluting, Cost-Effective Fertilizer System
Professor Beth Green, Green Fertilizer Technologies, LLC, Spartanburg , SC (G. McNeely, P. Green) | 75 | 152190433 | Effect of Mixing Method on Performance of ASBR digesters
Douglas W. Hamilton, Oklahoma State University, Stillwater, OK (D.W. Hamilton) |
| 60 | 152149480 | Study on the impact of the double outlets structure on the centrifugal pump performance of the deep well jet pump
ChenHai Zou, National research center of pumps, Zhenjiang, China (C. Zou, H. Li, P. Tang, C. Chen, Y. JIANG) | 76 | 152189664 | Application of negative pressure contributes for the efficient composting of livestock manure
Deug-Woo Han, National Institute of Animal Science, Suwon, Korea (the Republic of) (D. Han, M.A. Khan, J. Kim, K. Jeong, S. Cho, D. Lee, J. Kwag) |
| 61 | 152192692 | Effects of Mulching on Soil Moisture, Temperature and Crop Yield under Drip Irrigation
Juan Sui, China Institute of Water Resources and Hydropower Research, Beijing, China (J. Sui, J. Wang, S. Gong, Y. Zhang) | 77 | 152189556 | Construction energy input used building of biodegesters for management and treatment of swine wastes
Matheus Campos Mattioli, Federal University of Lavras, Lavras, Brazil (A.V. Veloso, A. Torres Campos, M. Campos Mattioli, P. Amaral, J. Ferreira, T. Yanagi Junior) |
| 62 | 152189333 | Evaluating the impacts of crop rotations on groundwater storage and recharge in a humid subtropical agricultural watershed.
Abdullah O. Dakhalla, Mississippi State University, Starkville, MS (A.O. Dakhalla, P.B. Parajuli) | | | |

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| <p>78 152189551 Energy analysis of swine production system with biodigester wastes treatment and generation of electric energy from biogas
Matheus Campos Mattioli, Federal University of Lavras, Lavras, Brazil (A.V. Veloso, A. Torres Campos, M. Campos Mattioli, T. Yanagi Junior, P. Amaral, J. Ferreira)</p> <p>79 152189538 Mitigation of environmental impact of methane emissions from swine production system by anaerobic biodigestion of wastes
Matheus Campos Mattioli, Federal University of Lavras, Lavras, Brazil (A.V. Veloso, A. Torres Campos, M. Campos Mattioli, T. Yanagi Junior, J. Ferreira, J. Barbosa)</p> <p>80 152181810 Impacts of an Undersized Bioretention Retrofit on Parking Lot Runoff
Bree Tillett, North Carolina State University, Raleigh, NC (B. Tillett, J. Page, W. Hunt)</p> <p>81 152189360 Biofiltration Vane: A New LID Technology for Sloped Drainage Ways
Alex McLemore, Oklahoma State University, Stillwater, OK (A. McLemore, J. Vogel, G. Brown, M.A. Melone)</p> <p>82 152190147 Coupling Green Infrastructure Construction with Scheduled City Street Renovation: A Look at Design, Research, and Lessons Learned from a "Green Street" in Fayetteville, North Carolina
Andrew Anderson, North Carolina State University, Raleigh, NC (A. Anderson, W. Hunt)</p> <p>83 152217586 Study on the Facilities and Procedures for Un-frozen Soil Erosion
Yun Y. Ban, College of Water Resources and Civil Engineering, China agricultural university, Beijing, China, Beijing, China (Y.Y. Ban, T. Lei, C. Chen, Z. Liu)</p> <p>84 152155680 Hydrological Modeling of Pothole Microwatersheds in the Des Moines Lobe
Ligia Serrano, Iowa State University, Ames, IA (L. Serrano)</p> <p>85 152190715 Modeling Phosphorous Losses from Seasonal Manure Application Schemes
Erin G. Menzies, Cornell University, Ithaca, NY (E.G. Menzies, M.T. Walter)</p> <p>86 152189198 Movement of Antibiotic-Resistant Bacteria and Resistance Genes in Tile-Drained Agricultural Fields Receiving Swine Manure Application Over Four Years
Elizabeth M. Luby, Iowa State University, Ames, IA (E.M. Luby, M.L. Soupier, T. Moorman)</p> <p>87 152189298 Development of Web GIS-based VFSMOD modeling system and Loosely Coupling with the SWAT for Watershed Evaluation of the VFS
Min-Kyeong Kim, National Academy of Agricultural Science, WanJoo, Korea (the Republic of) (K. Lim, Y. Park, Y. Jung, M. Kim, B. Engel, R. Munoz-Carpena)</p> <p>88 152189421 Direct Measurements of Nitrate Transformations in the Upper Floridan Aquifer
Wesley R. Henson, University of Florida, Gainesville, FL (W.R. Henson)</p> <p>89 152189518 Estimating Velocity of Water Flow within Gravel Layer by Different Tracer Methods Liyan Chen, College of Water Resources and Civil Engineering, China Agricultural University, Beijing, China (L. Chen, T. Lei, Y. Yan)</p> <p>90 152190071 The Effects of Winter Cover Cropping on Nutrient Leaching Through Repacked Soil Columns
Julie Honegger, University of Illinois, Urbana, IL (J. Honegger, P.K. Kalita)</p> <p>91 152190136 Diversity in cell properties of stream water E. coli and stream sediment E. coli
Xiao Liang, Iowa State University, Ames, IA (X. Liang, C. Liao, M.L. Soupier, L. Jarobe, M. Thompson, P. Dixon)</p> <p>92 152190922 Best Manahement Practices to reduce Phosphorus Entering Marion Reservoir, Kansas
Philip Barnes, Kansas State University, Manhattan, KS (P. Barnes)</p> | <p>93 152190947 Transfer of Tetracycline Resistance Genes from Agricultural Soils and Drainage Water to Enterococcus faecalis
Elizabeth M. Luby, Iowa State University, Ames, IA (E.M. Luby, M.L. Soupier, T. Moorman)</p> <p>94 152188731 Diffusion of chlorine into sediment to control the growth of Naegleria fowleri
Melody Thomas, LSU, Baton Rouge, LA (M. Thomas, W.D. Constant)</p> <p>95 152188759 Using Low-Impact Development Concepts to Remove Pesticides from Runoff on a Large-Scale Container Nursery
John McMaine, Oklahoma State University, Stillwater, OK (J. McMaine, J. Vogel, J. Belden, M. Schnelle, E. Rebek)</p> <p>96 152190473 Seasonal Variation of Water Quality in On-Farm Water Storage Systems: Case Study of a Mississippi Delta Agricultural Watershed
Juan D. Pérez-Gutiérrez, Mississippi State University, Mississippi State, MS (J.D. Pérez-Gutiérrez, J. Paz, M.L. Tagert, R. Karki)</p> <p>97 152190666 Water Quality Ramifications of Manure Storage and Daily Haul during Winter and Early Spring
Jian Liu, Pasture Systems and Watershed Management Research Unit, State College, PA (J. Liu, T.L. Veith, P. Kleinman, D. Beegle)</p> <p>98 152180505 Development of Erosion Control Seed Mixtures for West Virginia
Leslie Hopkinson, WVU, Morgantown, WV (L. Hopkinson, G. Hilvers, E. Davis)</p> <p>99 152191077 Microbiological Contamination of Irrigation water on ready-to-eat (RTE) vegetables
Divya Gupta, McGill University, St-Anne-de-bellevue, Canada (D. Gupta, C. Madramootoo)</p> <p>100 152189088 Autonomous Collection of Coastal Bathymetry Data
Daniel D. Smith, Louisiana State University, Baton Rouge, LA (D.D. Smith, J. Rivet, M. Nalewaik, S. Hall)</p> <p>101 152189263 Use of Semi-Autonomous Multicopters to Assess Coastal Bioengineered Reefs and Habitat
Steven Hall, LSU, Baton Rouge, LA (S. Hall, C. Malveaux)</p> <p>102 152177028 Impact of Sugarcane Fallow Management Strategies on Water Quality and Plant Yield
Richard L. Bengtson, Louisiana State University, Baton Rouge, LA (R.L. Bengtson, K. Gravois)</p> <p>103 152190058 Seeing the forest for the trees in the SW Amazon: global sensitivity analysis of a complex ecological model
Geraldine Klarenberg, University of Florida, Gainesville, FL (G. Klarenberg, R. Munoz-Carpena, S. Perz)</p> <p>104 152162637 Finite Element Analysis to Evaluate Design Criteria for Filter Diaphragms
Benjamin C. Doerge, USDA-NRCS, Fort Worth, TX (B.C. Doerge)</p> <p>105 152188867 Roughness Manning Coefficient Variation in Irrigation Open Channels by Changing Width and Roughness Surface in the Armfield C4MKII Equipment
Mauricio G. Carrillo, Chapingo Autonomous University, Texcoco, Mexico (M.G. Carrillo, I. Guerrero, J. Prado-Hernandez, R. Arteaga)</p> <p>106 152247901 The Effects of Algae Pre-Treatment on the Bio-methane Potential of Swine Waste
Joe B. Carter, Univ of Arkansas, Fayetteville, AR (J.B. Carter)</p> <p>107 152189100 Irrigation Water-Use Efficiency in Maize-Soybean Cropping System in the Republic River Basin, South-west Nebraska
Kevin O. Achieng, University of Nebraska-Lincoln, Lincoln, NE (K.O. Achieng, S. Irmak, L. Odhiambo)</p> <p>108 152245039 Nutrients and sediment transport from the edge-of field along the drainage ditches in Northeast Arkansas
Michele Reba, USDA-ARS-Delta Water Management Research Unit, Jonesboro, AR (N. Aryal, M. Reba)</p> |
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MONDAY, JULY 27

- 109 152189959 **Corn Growth Modeling: Effects of Crop Rotation and Nitrogen Application on Grain Yield and Seed Composition**
Kurt Rosentrater, Iowa State University, Ames, IA (K. Rosentrater, K.A. Rosentrater, W. Riedell)

Monday, July 27 - 2:30PM-5:00PM

SESSION 135

MEASUREMENT AND MITIGATION OF AIR POLLUTANTS FROM LIVE-STOCK AND POULTRY HOUSING - PART 2 - Sponsored by PAFS-305, PAFS-405

Moderator: Hong Li, University of Delaware, Newark, DE

LOCATION: Bonaparte- 4th Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152190145	A Meta-analysis of Ammonia Emissions from Cattle Production Facilities Yang Liu, Kansas State University, Manhattan, KS (Y. Liu, Z. Liu, X. Shi)
2:50PM	152172138	Airflow characteristics in a pig house with partial pit ventilation system: a scale model study Chao Zong, Aarhus University, Tjele, Denmark (C. Zong, H. Li, G. Zhang)
3:05PM	152188289	Direct versus Indirect Methods for Ventilation Rates Measurement in Naturally Ventilated Livestock Buildings Xiang Wang, Department of Biological System engineering, Washington State University, Pullman, WA (X. Wang, H. Joo, G. Neerackal, P.M. Ndegwa)
3:20PM	152189769	Effects of Air Quality in Laying Hens House on Exterior and Interior Egg Quality Characteristics Ilker Kilic, Uludag University, Bursa, Turkey (I. Kilic, M. YALILI KILIC, S. Baycan)
3:35PM	152188315	A Simplified Direct Method for Determining Ventilation Rates in Naturally Ventilated Dairy Barns Xiang Wang, Department of Biological System Engineering, Washington State University, Pullman, WA (X. Wang, H. Joo, G. Neerackal, P.M. Ndegwa, L. Yu, Y. Ma, H. Liu)
3:50PM		Break
4:00PM	152180739	Design and Performance Evaluation of Upgraded Portable Monitoring Units for Barn Air Quality Weichao Zheng, University of Illinois at Urbana-Champaign, Urbana, IL, United States (B. Ji, R. Gates, W. Zheng, T.E. Grift, A.R. Green, K. Koelkebeck)
4:15PM	152188318	Passive Samplers for Monitoring Ammonia Emissions in Naturally Ventilated Dairy Barns Pius M. Ndegwa, Department of Biological System Engineering, Washington State University, Pullman, WA (X. Wang, H. Joo, G. Neerackal, P.M. Ndegwa, J. Harrison)
4:30PM	152189186	Developing a passive flux sampler for measuring N₂O emissions: performance at laboratory scale Joahnn H. Palacios, IRDA, Quebec City, Canada (J.H. Palacios, A.D. Larios, B. Delgado, F. Philippe, P. Dubé, A. Avalos, S. Godbout)
4:45PM	152161447	Field Comparison of TSI DustTrak PM Monitor with Tapered Element Oscillating Microbalance (TEOM) Xufei Yang, University of Delaware, Newark, DE (X. Yang, H. Li, C. Zhang)

Monday, July 27 - 2:30PM-5:00PM

SESSION 136

EMERGING TECHNOLOGIES IN FOOD PROCESSING - Sponsored by

PRS-707, NRES-264

Moderators: Karunanithy Chinnadurai, UW-Stout, Menomonie, WI and Kevin Keener, Purdue Univ, West Lafayette, IN

LOCATION: Regent- 4th Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152212630	Impact of Radiant Heating of Corn on Sensory and Functional Quality Indices during Drying and Decontamination Anne A. Akeyo, University of Arkansas Division of Agriculture, Fayetteville, AR (A.A. Okeyo, G. Atungulu, S. Wilson, A. Couch)
2:50PM	152188236	Application of radiant heat and tempering treatments to dry and decontaminate corn Shantae Wilson, University of Arkansas Division of Agriculture, Fayetteville, AR (S. Wilson, G. Atungulu)
3:05PM	152188205	Development of Radiant Heating System and Methods for Drying and Microbial Decontamination of Corn Shantae Wilson, University of Arkansas Division of Agriculture, Fayetteville, AR (S. Wilson, G. Atungulu, A.A. OKEYO, . Smith)
3:20PM	152176190	Low-cost treatment of meat processing wastewater with a sand/gravel bioreactor system Karen M. Mancl, Ohio State University, Columbus, OH (K.M. Mancl, R. Kopp, O. Tuovinen)
3:35PM		Break
3:45PM	152183283	Pre-conditioning of Parboiled Rice Kernels with Different Concentrations of NaCl and KCl: Its Microstructure and Microwave Puffing Characteristics Susanta K. Das, Indian Institute of Technology Kharagpur, Kharagpur, India (S.K. Das, Musale, Dash)
4:00PM	152170376	Glucose Oxidase and Alcohol Oxidase Stabilization under Optimized High Hydrostatic Pressure Ali Halalipour, University of Georgia, Athens, GA (A. Halalipour, J. I. Reyes De Corcuera, E. E. Howell)
4:30PM	152180618	Field evaluation of a method to conserve coffee during its commercialization at high moisture content Cesar A. Ramirez Gómez, CENICAFE, Manizales, Colombia (C.E. Oliveros-Tascón, C.A. Ramirez Gómez, A.F. Trujillo Cosme)
4:45PM	152189390	Field Testing of a Hand Hygiene Monitoring System for Food Handlers Ning Wang, Oklahoma State University, Stillwater, OK (N. Wang, T. Johnson, T. Bowser, Y. Wan)

Monday, July 27 - 2:30PM-4:00PM

SESSION 137

TECHNO-ECONOMIC MODELING OF FOOD, CO-PRODUCT, BYPRODUCT AND WASTE SYSTEMS - Sponsored by

PRS-707

Moderator: Christopher Callahan, University of Vermont, Rutland, VT

LOCATION: Bacchus- 4th Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152187921	Techno-economic evaluation of drying wheat distillers grain with solubles using microwave energy in Saskatchewan fuel ethanol plants Lope G. G. Tabil, University of Saskatchewan, Saskatoon, Canada (M.P. Mosqueda, L.G. Tabil)

MONDAY, JULY 27

2:50PM	152188594	Techno-Economic Modeling of Soybean Oil Extraction with Hexane from 1980 to 2014 Ming-Hsun Cheng, Iowa State University, Ames, IA (M. Cheng, K.A. Rosentrater)
3:05PM	152190226	Techno-Economic Analysis (TEA) of a 120 Million Gallon Corn-Based Ethanol Plant Weitao Zhang, Iowa State University, Ames, IA (W. Zhang, K.A. Rosentrater)
3:20PM	152190230	Techno-Economic Analysis (TEA) to model the process and costs for an Asian carp Based Processing Plant Weitao Zhang, Iowa State University, Ames, IA (W. Zhang, K.A. Rosentrater)
3:35PM		Break

Monday, July 27 - 4:00PM-5:00PM

SESSION 138

BIOPROCESS MODELLING -

Sponsored by PRS-701

Moderator: Haiyen Cen, Michigan State Univ.

LOCATION: Bacchus- 4th Floor

Time	Paper #	Title/Authors
4:00PM		Introduction
4:05PM	152183859	Impact of uncertainties on lignocellulosic ethanol production Yogendra Shastri, Indian Institute of Technology, Bombay, Mumbai, India (S. Verma, F. F. Y. Shastri)

Monday, July 27 - 2:30PM-5:00PM

SESSION 139

MICROWAVE AND RADIO FREQUENCY HEATING AND DRYING IN AGRICULTURAL AND FOOD PROCESSING - Sponsored by PRS-703, PRS-702/2

Moderator: Shaojin Wang, Northwest A&F University, Yangling, China

LOCATION: Iberville- 4th Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152174065	Heating pattern study using chemical marker M1 formation in mashed potato model food for microwave heating at pasteurization temperature Deepali Jain, Washington State University, Pullman, WA (D. Jain, J. Tang, F. Liu, B. Stewart)
2:50PM	152178929	A new gellan gel model food for heating pattern determination of microwave assisted pasteurization processes Jungang Wang, Washington State University, Pullman, WA (J. Wang, J. Tang, F. Liu, B. Stewart)
3:05PM	152179900	Effect of microwave-vacuum drying of germinated lentils on antioxidant activity and potential glycaemic index Robbarts Nongmaithem, Department of Chemical and Biological Engineering, University of Saskatchewan, Saskatoon, Canada (R. Nongmaithem, V. Meda)
3:20PM	152180295	Evaluating the top electrode voltage distribution uniformity in radio frequency systems Shaojin Wang, Northwest A&F University, Yangling, China (S. Wang, K. Wang)
3:35PM		Break
3:45PM	152181419	Simulation and validation of radio frequency heating with conveyor movement Long Chen, College of Mechanical and Electronic Engineering Northwest A&F University, Yangling, China (L. Chen, S. Wang)

4:00PM	152182418	Storage Stability of Pistachios as Influenced by Radio Frequency Treatments for Postharvest Disinfestations Bo Ling, Northwest Agriculture & Forestry University, Yangling, China (B. Ling, L. Hou, R. Li, S. Wang)
4:15PM	152189670	Rice in electromagnetic field energy distribution and heating characteristics study with simulation for a rice weevil insecticidal microwave system development Yenu Wan, National Chung Hsing University, Taichung, Taiwan (Y. Wan, C. Chen)
4:30PM	152190229	Determination of thickness of microwaveable products in multicompartments meals using dielectric, thermal, and physical properties Jiajia Chen, University of Nebraska-Lincoln, Lincoln, NE (J. Chen, A. Guru, D. Jones, J. Subbiah)

Monday, July 27 - 2:30PM-5:15PM

SESSION 140

APPROPRIATE SCALE MECHANIZATION ISSUES IN INDIA AND OTHER DEVELOPING COUNTRIES - INVITED SPEAKERS -

Sponsored by AABFEIO

Moderators: Deepak Kumar, The ADM Institute for the Prevention of Postharvest Loss, University of Illinois at Urbana-Champaign, Urbana, IL and P. Kumar Mallikarjunan, Virginia Tech, Blacksburg, VA

LOCATION: LA Galleries 1- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM		Current Directions of Agricultural Mechanization Research in India and the Directions for Moving Forward Dr. K. Alagusundaram, Deputy Director General, Indian Council of Agricultural Research, India (Presenting on his behalf: Dr. Kumar Mallikarjunan)
3:05PM		Appropriate-Scale Mechanization: Opportunities for Global Collaboration Dr. Ajit Srivastava, Professor and Chair, Biosystems and Agricultural Engineering, Michigan State University
3:25PM		Mechanization Opportunities to Reduce Post-Harvest Loss in Developing Countries Dr. Dirk Maier, Professor, Grain Science & Industry, Kansas State University
3:45PM		Break

ASABE Fellows Induction Ceremony & Reception

Monday, July 27

6:00PM

Location: Carondelet - 3rd Floor

MONDAY, JULY 27

3:55PM	Farm Mechanization in the Realm of Food Security and Sustainability Dr. V.K. Tewari, Professor, Agricultural and Food Engineering, Indian Institute of Technology, Khagargpur, India	10:30AM	152189252	De-risking the Biofuel Industry through Distributed Biomass Preprocessing Centers Patrick Lamers, Idaho National Laboratory, Idaho Falls, ID (P. Lamers, J. Hansen, E. Searcy)
4:15PM	Appropriate Mechanization Technologies for Efficient Utilization of Biomass Dr. Indra Mani, Professor, Division of Agricultural Engineering, Indian Agricultural Research Institute (IARI)	10:50AM	152187785	Spatial analysis of distributed depots for advanced biomass processing Erin G. Webb, Oak Ridge National Laboratory, Oak Ridge, TN (E.G. Webb, M. Hilliard, C. Brandt, S. Sokhansanj, L. Eaton)
4:35PM	Mechanization for Improving Productivity and Returns to Farmers in Developing Countries Dr. Nagin C. Patel, Vice Chancellor, Anand Agricultural University, India	11:10AM	152188632	Specific Energy consumption and quality of briquettes produced using wood and herbaceous biomass Jaya Shankar Tumuluru, Idaho National Laboratory, Idaho falls, ID (J. Tumuluru, T. Dansie, I. Johnson, C. Conner)
4:55PM	Panel Discussion	11:30AM	152305454	Post-Harvest Handling of Microalgae - Lessons Learned from Terrestrial Modeling and Analysis Shahab Sokhansanj, Oak Ridge National Lab, North Vancouver, Canada (S. Sokhansanj, E.G. Webb)
Monday, July 27 - 9:30AM-12:00PM SESSION 141 ADVANCED FEEDSTOCK SUPPLY LOGISTICS - INVITED SPEAKERS - Sponsored by ES-220 Moderator: Sam Tagore, US Dept of Energy, Washington, DC LOCATION: LA Galleries 3- 2nd Floor		11:50AM		Concluding remarks and open discussion - Sam Tagore, Bioenergy Technologies Office, US Department of Energy
Time	Paper #	Title/Authors		
10:00AM		Introduction to BETO Research on Logistics Allison Goss		
9:10:10AM	152190637	The Role of DOE's Feedstock Supply and Logistics Program in the Development of Advanced Supply Systems Mark P. Elless, Department of Energy, Washington, (M.P. Elless)		



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TUESDAY, JULY 28

Tuesday, July 28 - 9:30AM-12:00PM

SESSION 201

BIOLOGICAL ENGINEERING

POSTER SESSION - Sponsored by

ASE-BEF

Moderator: Jeffrey Catchmark, Penn State University, University Park, PA

LOCATION: Exhibit Hall- 2nd Floor

Poster #	Paper #	Title/Authors
1	152147315	Evaluation of Biomasses as Heavy Metal Adsorbents for Use in Swine Lagoons. Brianna J. Hess, North Carolina State Univ, Raleigh, NC (B.J. Hess, P. Kolar)
2	152190808	Improving the Saccharification Yield of Soybean Meal by Using Liquid-CO2 Assisted Extrusion in a Single Screw Extruder Bishnu Karki, South Dakota State University, Brookings, SD (B. Karki, K. Muthukumarappan, S.R. Kamireddy, W. Gibbons, M. Brown)
3	152190886	Evaluating the Suitability of Drying Rough Rice Using Heated Husk as Moisture Adsorbent Sammy Sadaka, University of Arkansas, Little Rock, AR (S. Sadaka, G.S. Ubhi)
4	152191041	Profiling lipid and protein co-production in the microalgae Chlamydomonas reinhardtii and the novel application of autolytic enzymes as an extraction pretreatment Laura Soto Sierra, Kansas State University, Manhattan, KS (L. Soto Sierra, C. Dixon, L.R. Wilken)
5	152174935	Development of chemosensory proteins based electrochemical biosensor Yue Rong, University of Florida, Gainesville, FL (Y. Rong, E. McLamore)
6	152180265	CFD Simulation of Airflow 3D Distribution for Air-assisted Orchard Sprayer Xiaolan Lv, Institute of Agricultural Facilities and Equipment, JAAS, Nanjing, China (X. Lv, Y. Chang, M. Zhang, Z. Bai, W. Qiu)
7	152183694	Correlation Study on Quality and Processing Characteristics of Corn in Northeast China Tengfei Li, China Agricultural University, Beijing, China (F. Peng, H. Wang, D. Kong, J. Yang, T. Li, X. Chen)
8	152183824	The simulation and modeling research of pellet feed conditioner based on DEM software Hongying Wang, China Agricultural University, Beijing, China (h. li, F. Peng, H. Wang)
9	152184801	Detection of Armillaria Root Rot Disease by Analysis of Volatile Organic Compounds Xiaojuan Song, Georgia Tech Research Institute, Atlanta, GA (X. Song, T. Beckman, H. Scherm, O. Kemenova, G. McMurray)
10	152185384	Salmonella Typhimurium LT2 Decay in Poultry Carcasses During Thermophilic Digestion Wenlong Cao, UC Davis, Davis, CA (V.K. Vaddella, P. Pandey, W. Cao, J. Shi)

POSTER INFORMATION

Size of poster boards: 91 inch wide by 44.5 inch deep
Mount poster using push pins

Posters must be removed no later than
15 minutes after the session.

PLEASE NOTE: Those not removed by presenter will be removed by staff and disposed of at the end of the day.

11	152185904	The Expression of Genes β-CAS and NIT in Maize Heterosis under Abiotic Stress Jing Ji, Institute of Genetic Engineering, School of Environmental Science and Engineering, Tianjin University, Tianjin, China (J. Ji, Y. Wang, W. Guan, C. Jin, C. Guan, J. Liu, G. Wang)
12	152188839	Modeling the Growth and Nutrient Uptake of Green Microalga Chlorella vulgaris in Simulated Wastewater Ankita Juneja, Oregon State University, Corvallis, OR (A. Juneja, G.S. Murthy)
13	152189106	Preliminary Investigation of Non-isothermal Drying Kinetics of Wheat as Affected by Initial Moisture Content and Heating Rate Using Model-Fitting Technique Sammy Sadaka, University of Arkansas, Little Rock, AR (G.S. Ubhi, S. Sadaka)
14	152189191	The Development in Research on the Seedling Auto-pick up Device of a Self-feeding Transplanter for Plugged Seedlings Cailling Liu, Chian Agricultural University, Beijing, China (C. Liu, x. wang, m. wang)
15	152189195	Optimization Study of Novolac Resins Utilizing Fast Pyrolysis Bio-oil Characteristics Melanie McDonald, Auburn University, Auburn, AL (M. McDonald)
16	152189359	Bioprocess Engineering to Improve the Feeding Value of Corn Ethanol Co-product DDGS Yanmei Zhang, University of Minnesota, Saint Paul, MN (Y. Zhang, B. Hu)
17	152189402	Computer vision system for grading mangos in Bangladesh Igathinathane Cannayen, North Dakota State University, Fargo, ND (M. Momin, M. Rahman, M. Sultana, I. Cannayen)
18	152189606	Quantitative assessment of H2 and CO2 supersaturation during thermophilic cellobiose fermentation with Clostridium thermocellum Warren A. Blunt, Department of Biosystems Engineering, University of Manitoba, Winnipeg, Canada (W.A. Blunt, d. levin, R. Sparling, D. Gapes, N. Cicek)
19	152189645	Study on spot heating technology of hydroponics Strawberry by using Low Density Polyethylene pipe Jongpil Moon, National academy of agricultural science, Jeonju, Korea (the Republic of) (J. Moon, G. Kang, J. Kwon, T. Lee, S. Lee)
20	152189653	Current status of agricultural mechanization in South Korea Seokcheol Yu, National Academy of Agricultural Science, Jeonju-si, Korea (the Republic of) (S. Yu, S. Shin, C. Kang, B. Kim, J. Kim)
21	152189886	Effect of Extraction Conditions on Purification of Recombinant Human Serum Albumin from Transgenic Rice Kseniya A. Sheshukova, Kansas State University, Manhattan, KS (K.A. Sheshukova, L.R. Wilken)
22	152189980	Energy Balance Models for Natural Ventilation Efficiency in an Experimental High Tunnel Muzi Zheng, University of Tennessee, Knoxville, TN (M. Zheng, B. Leib, W. Wright, P. Vanchiasong, A. Haghighi, T.J. Grant)
23	152189990	Water Use Efficiency Evaluation in High Tunnel Rainwater Collection Systems Phue Vanchiasong, University of Tennessee, Knoxville, TN (P. Vanchiasong)
24	152190008	Optimized stacking of large square bales for in-stack drying of switchgrass Magen Shedden, University of Tennessee, Knoxville, TN (M. Shedden, L. Stewart, E.G. Webb, N. Labbe, T. Riels)

CENTER SPREAD

CENTER SPREAD

TUESDAY, JULY 28

25	152190382	Value addition of soy hulls as a functional amino acid supplement for development of soy-based aquafeeds using extrusion and fermentation processes Parisa Fallahi, National Corn to Ethanol Research Center, Edwardsville, IL (P. Fallahi, S. Trupia, K. Kajbaf, K. Muthukumarappan, K.A. Rosentrater)
26	152190743	Critical factors in the value chain responsible for postharvest losses in Wheat and Rice in developing countries Deepak Kumar, The ADM Institute for the Prevention of Postharvest Loss, University of Illinois at Urbana-Champaign, Urbana, IL (P.K. Kalita, D. Kumar, S. Chen)
27	152190784	Influence of rainfall level and crop density on dry matter loss from corn stover and switchgrass Amit Khanchi, Iowa State University, Ames, IA (A. Khanchi, S. Birrell)
28	152187807	AgrAbility in the Classroom: Student Design Projects of the NC AgrAbility Partnership and NC State University Biological & Agricultural Engineering Gary Roberson, NC State University, Raleigh, NC (M. Proctor, G. Roberson, M.D. Boyette)

Tuesday, July 28 - 8:30AM-4:00PM

SESSION 203

BIONERGY FOCUS DAY - INVITED SPEAKERS

- Sponsored by ES-01, PRS-280, ES-220

Moderator: Ganti Murthy, Oregon State University, Corvallis, OR

LOCATION: Grand Ballroom- 3rd Floor

Bioenergy day at ASABE is intended to develop an understanding of challenges in the evolution of the bioeconomy from multiple stakeholder perspectives. This is intended to catalyze discussions furthering thought processes to enhance new collaborations and develop solutions to industry relevant challenges in scaling up bioenergy technologies. The overall theme of Bioenergy Day 2015 is to address the issues around the energy-environment nexus and the challenges of scaling up bioenergy technologies.

Time	Paper #	Title/Authors
8:30AM		Introductions
8:40AM		Keynote Speaker - Dr. Jonathan Male, Director, BETO, US Dept of Energy
9:30AM		Questions and Answers
9:45AM		Short Video on Biofuel Operations in the United States
10:00AM		PANEL 1
		Introduction Moderators: Ray Huhnke, Ph.D., P.E.
10:05AM		The Bioenergy Water Nexus Rob Anex, Ph.D., Professor of Biosystems Engineering, University of Wisconsin
10:25AM		Biofuel Feedstock Production Influence on Soil Organic Carbon Jennifer Dunn, Ph.D., Argonne National Laboratory, U.S. Department of Energy
10:45AM		Food, Fuel and Forests: Conflicts and Synergies Tom Richard, Ph.D., Penn State Institutes of Energy and the Environment
11:05AM		Panel Discussion
11:50AM		Concluding Remarks Raymond Huhnke
12:00PM		Break for Lunch

2:00PM	PANEL 2
	Introduction Moderators: Kevin Kenney, Shahab Sokhansanj)
2:05PM	Feedstock Supply Logistics Harrison Pettit, Pacific Ag
2:20PM	Advanced Harvest Systems Kevin Comer, Antares Group
2:35PM	Purposely Grown Woody Biomass Tim Volk, State University of New York
2:50PM	The Growth of Wood Pellets in the US South and the Outlook Dr. Richard P. Vlosky, Forest Products, Louisiana State University
3:05PM	Equipment Challenges and Opportunities Glenn Farris, AGCO Corp
3:20PM	Panel Discussion
4:20PM	Concluding Remarks Sam Tagore, BEO/DOE
4:30PM	Bioenergy Poster Session (Located in Exhibit Hall - 2nd floor)

Tuesday, July 28 - 9:30AM-1:15PM

SESSION 204

TEACHING METHODS AND STUDENT LEARNING-Sponsored by ESH

Moderator: Paul Weckler, Oklahoma State University, Stillwater, OK

LOCATION: Audubon- 5th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152147600	High impact classroom practices for first-year student retention Deepak R. Keshwani, University of Nebraska-Lincoln, Lincoln, NE (D.R. Keshwani, E. Curtis)
9:50AM	152162359	Administration of Team-Based Senior Capstone Course: Lessons Learned and Future Challenges Gretchen A. Mosher, Iowa State University, Ames, IA (G.A. Mosher)
10:05AM	152178895	Experience using active learning to flip a required writing-intensive process control and instrumentation course Kevin A. Janni, University of Minnesota, St. Paul, MN (K.A. Janni)
10:20AM	152190109	Technology in the Agricultural Systems Management Learning Environment Leon G. Schumacher, University of Missouri, Columbia, MO (M. Victoria, L.G. Schumacher)
10:35AM	152187869	AgrAbility in the Classroom: Student Design Projects of the NC AgrAbility Partnership and NC State University Biological & Agricultural Engineering Gary Roberson, NC State University, Raleigh, NC (M. Proctor, G. Roberson, M.D. Boyette)
10:50AM		Break
11:00AM	152189335	Capstone Senior Design Projects: Highlighting University-Industry Partnerships Paul Weckler, Oklahoma State University, Stillwater, OK (P. Weckler, T. Bowser, C. Willoughby, D. Enns)
11:15AM	152189598	Procedures on Funds Disbursement to Creditors and Suppliers of Goods and Services in a Private Hospital: An Analysis Marta B. Macalalad, Adventist University of the Philippines, Silang, Philippines (M.B. Macalalad, M. Narbarte, M.L. Garduque)
11:30AM	152189818	Adapting a "culture mapping" technique to the needs of engineering students and researchers Carol L. Jones, Oklahoma State University, Stillwater, OK (C.L. Jones, G. Brown, J. Overton)
11:45AM	152190000	The Student Advising, Coaching, Mentoring Continuum: a Review and Description David Jones, University of Nebraska, Lincoln, NE (D. Jones)

TUESDAY, JULY 28

12:00PM	152190004	Strengthening Senior Technology Capstone experience for Agricultural and Industrial Technology students Jacek A. Koziel, Iowa State University, Ames, IA (L.D. Snell, J.A. Koziel, T.D. Glanville)
12:15PM	152190022	Using a Flipped Classroom with Just-in-Time Teaching David Jones, University of Nebraska, Lincoln, NE (T. Daher, D. Jones, J. Subbiah)
12:30PM	152190174	Teaching Software Programming to Mechanized Systems Management Students Santosh Pitla, University of Nebraska Lincoln, Lincoln, NE (S. Pitla, E. Curtis, D. Dam)
12:45PM	152190007	Student Satisfaction and Response to “Flipped Classroom” Instruction in a Food Chain Logistics Course Patrizia Busato, University of Turin, Gruglisco (TO), Italy (P. Busato, R. Berruto, F. Zazueta)
1:00PM	152187418	Innovations in Eye and Face Protection for Pesticide Applicators: Curriculum Supporting the Proper Selection and Use of Personal Protective Equipment F. R. Beard, Utah State University, Logan, UT (F.R. Beard, M.L. Pate, B. Miller, R. Miller)

Tuesday, July 28 - 9:30AM-12:00PM

SESSION 205 SPECTROSCOPIC IMAGING -

Sponsored by ITSC-330
Moderator: Kurt C. Lawrence, USDA ARS Athens, GA

LOCATION: LA Galleries 3- 2nd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152167504	A hierarchical approach of apple identification for robotic harvesting Abhishesh Silwal, Washington State University, Prosser, WA (A. Silwal, M. Karkee, Q. Zhang)
9:50AM	152188279	Identifying Rice Grains of Various Cultivars Using Machine Vision Tzu-yi Kuo, National Taiwan University, Kaohsiung City, Taiwan (T. Kuo, Y. Kuo, C. Chung, S. Chen, H. Lin)
10:05AM	152189448	Phenotyping transgenic wheat in a greenhouse through multispectral and thermal imaging Geng Bai, Department of Biological Systems Engineering, University of Nebraska - Lincoln, Lincoln, NE (G. Bai, Y. Ge, S. Blecha, H. Walla, J.E. Specht)
10:20AM	152186386	Morphological Integration between Floral Petals for <i>Sinningia Speciosa</i> Cheng-Chun Wang, National Taiwan University, Taiwan, R.O.C., Taipei, Taiwan (C. Wang, H. Hsu, C. Wang, Y. Kuo)
10:35AM		Break
10:45AM	152183265	Detecting Water Stress on Ornamental Plants Using Thermal and Spectral Sensing Yeyin Shi, University of Florida, Lake Alfred, FL (Y. Shi, Y. She, J. Lu, S.I. Buchanon, R. Ehsani, J. Owen)
11:00AM	152191080	Evaluating abiotic stress in potato cultivars using sensing techniques. Carlos Zúñiga, Washington State University, Pullman, WA (C. Zúñiga, S. Jarolmasjed, L.R. Khot, N.R. Konwles, M. Pavsek, S. Sankaran)
11:15AM	152186976	Hyperspectral Spectroscopy for Detection of Early Blight (<i>Alternaria solani</i>) Disease in Potato (<i>Solanum tuberosum</i>) Plants at Two Different Growth Stage Daniel L. Atherton, Western Illinois University, Macomb, IL (D.L. Atherton, D.G. Watson)

Tuesday, July 28 - 9:30AM-12:00PM

SESSION 206 ADVANCED COMPUTATIONAL APPROACHES FOR SOLVING AGRICULTURAL AND BIOLOGICAL ENGINEERING PROBLEMS -

PART 1 - Sponsored by ITSC-210

Moderator: Kelly Thorp, USDA-ARS, Maricopa, AZ

LOCATION: LA Galleries 4- 2nd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152190700	Farm management optimization for the adoption of silo bag storage Tao Lin, University of Illinois, Urbana, IL (T. Lin, G.D. Maia, L. Rodriguez, Y. Shastri, Y. Ouyang)
9:50AM	152188736	ARSmartPivot v.1 - Sensor based management software for center pivot irrigation systems Manuel A. Andrade, USDA-ARS, Bushland, TX (M.A. Andrade, S. O'Shaughnessy, S.R. Evett)
10:05AM	152190054	Analysis of Soil Properties Using Computer Vision Bharath Sudarsan, McGill University, Montreal, Canada (B. Sudarsan, V. Adamchuk, A. Biswas)
10:20AM		Break
10:30AM	152189813	Reconstruction of dormant trees' shape for automated pruning and phenotyping Amy Tabb, USDA-ARS-AFRS, Kearneysville, WV (A. Tabb)
10:45AM	152152494	Development of High-Throughput Field Phenotyping System Using Imagery from Unmanned Aerial Vehicle Ryo Sugiura, National Agriculture and Food Research Organization, Memuro, Japan (R. Sugiura, A. Itoh, K. Nishiwaki, N. Murakami, Y. Shibuya, M. Hirafuji, S. Nuske)
11:00AM	152184469	A novel method for derivation of habitat scene of some important wetland ecosystem in China Yongming Chen, Yancheng Institute of Technology, Yancheng, China (Y. Chen, P. Lin, G. Hu, C. Gu, Z. Yao)

Tuesday, July 28 - 9:30AM-12:00PM

SESSION 207 BIOSENSORS AND BIOINSTRUMENTATION -

Sponsored by ITSC-220

Moderator: Sindhuja Sankaran, Washington State University, Pullman, WA

LOCATION: LA Galleries 5- 2nd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152189223	Rapid and Label-free Detection of Avian Influenza Virus H5N1 using a Target-responsive Hydrogel based Fluorescence Aptasensor Lizhou Xu, Zhejiang University, Fayetteville, AR (L. Xu, R. Wang, A. Wang, Y. Li)
9:50AM	152190010	Modeling of the Bacteria attached with Magnetic Nanoparticles for Optimization of Magnetic Separation Process Zach Callaway, University of Arkansas, Fayetteville, AR (Z. Callaway, L. Xu, R. Wang, Y. Li)
10:05AM	152184936	Developing a lipase catalyzed biosensor for measuring free and total glycerol in biodiesel Vignesh Jayaraman Muralidharan, University of Idaho, Moscow, ID (V. Jayaraman Muralidharan)
10:20AM	152189277	Open-source hardware and software can offer tools for agriculture Daniel Fisher, USDA- ARS, Stoneville, MA (D. Fisher)
10:35AM		Break

TUESDAY, JULY 28

10:45AM	152175631	Portable MEMS GC System for Early Detection of Armillaria Fungus Milad Navaei, Georgia Institute of Technology, Atlanta, GA (M. Navaei, X. Song, K. Schoenwald, A. MahdaviFar, P. Hesketh, J.D. Dimandja, G. McMurray)
11:00AM	152211853	Odorant binding protein-based biosensor for volatile organic compounds detection in agriculture Sindhuja Sankaran, Washington State University, Pullman, WA (S. Sankaran, S. Panigrahi, S.F. Garczynski)
11:15AM	152339679	Innovative qPCR Using Interfacial Effects to Enable Low Threshold Cycle Detection and Inhibition Relief Jeong-Yeol Yoon, University of Arizona, Tucson, AZ (J. Yoon)

Tuesday, July 28 - 9:30AM-12:15PM

SESSION 208

ADVANCES IN PESTICIDE APPLICATION - PART 1 - Sponsored by

MS-26, MS-54
Moderator: Harold Thistle, USDA Forest Service,
LOCATION: LA Galleries 6- 2nd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152182031	Measuring Surface Wind Velocity Changes Matthew Schramm, Iowa State University, Ames, IA (M. Schramm, M. Hanna, M. Darr, S.J. Hoff, B. Steward)
9:50AM	152189326	Effect of Adjuvants and Air-inclusion in Nozzles on Droplet Size and Spray Coverage Erdal Ozkan, Ohio State University, Columbus, OH (E. Ozkan, A. Mota, R. Derksen, H. Zhu)
10:05AM	152189371	Characterization of Spray Particle Size Distribution and Airborne Concentration of Active Ingredient Emitted by Modern Agricultural Spray Nozzles Mark Ledson, Syngenta Crop Protection, LLC, Greensboro, NC (M. Ledson)
10:20AM	152191044	Field Evaluation of a Variable-Rate Aerial Application System Daniel E. Martin, USDA-ARS, College Station, TX (D.E. Martin, C. Yang)
10:35AM		Break
10:45AM	152187337	An update on an airblast spray dispersion model Peter A. Larbi, Arkansas State University, College of Agriculture & Technology, Jonesboro, AR (P.A. Larbi)
11:00AM	152189348	The Effect of Field Conditions on In-Field Spread Patterns from Twin Disk Spreaders Miles C. Grafton, Massey University, Palmerston North, New Zealand (M.C. Grafton, I.J. Yule, D. Acebes, L.A. Willis, M.J. Manning)
11:15AM	152189389	Temperature distribution and fog concentration of a thermal fogging process for treatment of HLB in citrus Reza Ehsani, University of Florida, Lake Alfred, FL (Z. Jia, R. Ehsani, H. Zhou, L. Xu, A. Al-Jumaili)
11:30AM	152165421	Development of a PWM Precision Spraying System for Unmanned Helicopter Liping Chen, National Research Center of Intelligent Equipment for Agriculture, Beijing, China (R. Zhang, L. Chen, D. Lv, H. Jiang)
11:45PM	152181748	Low-Cost Pest Bird Control in Specialty Crops Using Unmanned Aerial Vehicles Yiannis Ampatzidis, California State University, Bakersfield, CA (Y. Ampatzidis, J. Ward, O. Samara)

Tuesday, July 28 - 9:30AM-12:15PM

SESSION 209

ADVANCES IN SEEDING AND TILLAGE TECHNOLOGY - Sponsored by

MS-42, MS-43, MS-45, MS-54
Moderator: Mark Hanna, Iowa State Univ
LOCATION: Mardi Gras A- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152149885	Faster, Wider, or Both - A Look at Planter Trends Randy Taylor, Oklahoma State University, Stillwater, OK (R. Taylor, M. Hanna, B. Grisso, J. Long, J. Fulton)
9:50AM	152190313	Evaluation of contour planting control system during simulated scenarios Ajay Sharda, Kansas State University, Manhattan, KS (A. Sharda, R. Strasser, D.L. Mangus, L. Haag, T. Griffin)
10:05AM	152184161	Performance modeling and seed releasing characteristics of a corn planter metering unit using response surface methodology Arzu Yazgi, Ege University, Izmir, Turkey (A. Yazgi, R. Taylor, H. Navid, P. Weckler)
10:20AM	152190057	Dynamic Modeling and Simulation of John Deere MaxEmerge® Plus Planting Depth Performance Rees Bridges, Auburn University, Auburn, AL (R. Bridges, T. McDonald, J. Fulton, A.M. Poncet)
10:35AM	152134331	Evaluation of Corn Seed Orientation Randy Taylor, Oklahoma State University, Stillwater, OK (R. Taylor, N. Wollenhaupt, A. Koller, A. Yazgi, I. Ciampiti, A. Schlegel, C. Godsey, H. Navid)
10:50AM		Break
11:00AM	152190060	Improving Seed Spacing Uniformity of Precision Vegetable Planters Mark Siemens, University of Arizona, Yuma, AZ (M. Siemens, R. Gayler)
11:15AM	152190307	Performance of planter with electric-drive seed metering system during simulated planting scenario Ryan Strasser, Kansas State University, Manhattan, KS (R. Strasser, A. Sharda, D.L. Mangus, L. Haag, D. Flippo)
11:30AM	152115668	Isolating Corn Plant Spacing Variability Randy Taylor, Oklahoma State University, Stillwater, OK (A. Yazgi, R. Taylor, H. Navid, R. Koehenower)
11:45AM	152189063	Conceptual and Embodiment Design of a Cam Shaker John O. Ohu, Univ of Maiduguri, Maiduguri, Nigeria (J.O. Ohu, F.A. Adamu, E. Mamman)

Tuesday, July 28 - 9:30AM-12:00PM

SESSION 210

SENSING AND MACHINE VISION FOR SPECIALTY CROPS - Sponsored by

MS-48, ITSC-320
Moderator: Manoj Karkee, Washington State University, Prosser, WA

LOCATION: Mardi Gras B- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152181394	A quick-install tractor guidance system relying on computer-vision. Antoine Pouliot, McGill University, Sainte-Anne-de-Bellevue, Canada (A. Pouliot, V. Adamchuk, T. Stanhope)
9:50AM	152181863	Machine vision system for early yield estimation of citrus in a site-specific manner Daeun Choi, University of Florida, Gainesville, FL (D. Choi, W. Lee, R. Ehsani, J.K. Schueller, F. Roka)
10:05AM	152188718	Classification of Laurel wilt-infested Avocado Trees Ana I. de Castro, CREC-UFL, Lake Alfred, FL (A.I. de Castro, R. Ehsani, S. Buchanan, J.J. Abdul-Ridha, R. Ploetz)
10:20AM		Break

TUESDAY, JULY 28

10:30AM	152189355	A robo-vision Algorithm for automatic harvesting of Green Sweet Pepper Ali Moghimi, Ferdowsi University of Mashhad, Mashhad, MN, Iran (the Islamic Republic of) (A. Moghimi, M. Aghkhani, M. Golzarian, A. Rohani, C. Yang)
10:45AM	152189391	Hyperspectral Sensing on Strawberry Colletotrichum Disease Yeyin Shi, University of Florida, Lake Alfred, FL (Y. Shi, A. de Castro, J.J. Abdul-Ridha, J. Lu, S.I. Buchanon, R. Ehsani)
11:00AM	152189424	Apple Fruit Size Estimation Using a 3D Machine Vision System Aleana Gongal, Washington State University, Prosser, WA (A. Gongal, M. Karkee, S. Amatya)
11:15AM	152176427	Assessment of Orchard Air-blast Sprayer in Rainwater Removal from Cherry Canopies Matthew D. Whiting, Department of Horticulture, Washington State University, Prosser, WA (J. Zhou, L.R. Khot, M.D. Whiting, T. Peters, Q. Zhang, D. Granatstein)

Tuesday, July 28 - 9:30AM-12:15PM

SESSION 211

AUTOMATED FIELD MACHINERY DATA COLLECTION, ANALYSIS AND UTILIZATION - Sponsored by MS-58, ITSC-200, MS-54, MS-43

Moderators: Joseph Dvorak, University of Kentucky, Lexington, KY and Joe Luck, University of Nebraska-Lincoln, Lincoln, NE

LOCATION: Mardi Gras C- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152188767	Data Analytics for Improving Sugarcane Harvesting Efficiencies and Logistic Sunil K. Mathanker, University of Illinois, Urbana, IL (S.K. Mathanker, H. Gan, B. Lawson, A. Hansen, K. Ting, J.F. Larsen)
9:50AM	152187827	Development of a Row-Crop Tractor Data Acquisition System James Roeber, University of Nebraska - Lincoln, Wakefield, NE (J. Roeber, S. Pitla, R. Hoy, J.D. Luck)
10:05AM	152189113	Real-Time Cellular Streaming of ISOBUS Data: Network Considerations and Prototype Design Dennis Buckmaster, Purdue University, West Lafayette, IN (A. Layton, A.D. Balmos, A. Ault, J. Krogmeier, D. Buckmaster)
10:20AM	152189297	Accurate manure application records — almost automatically Matthew R. Koester, Purdue University, West Lafayette, IN (M.R. Koester, D. Buckmaster, A. Ault, J. Krogmeier)
10:35AM	152180747	Parameter Modification Guiding Optimization Design and Tests of a Rotary Transplanting Mechanism for Rice Pot-Seedlings Bingliang Ye, Zhejiang Sci-Tech university, Hangzhou, China (B. Ye, X. Jin, G. Yu, L. Li, Y. Gao, H. Zhu)
10:50AM		Break
11:00AM	152189317	Comparison of machine Controller Area Network (CAN) Bus J1939 fuel rate to Nebraska Tractor Test Laboratory fuel rate data Joe D. Luck, University of Nebraska Lincoln, Lincoln, NE (S. Marx, J.D. Luck, S. Pitla)
11:15AM	152189505	Understanding management practices for biomass harvest equipment for commercial scale operation Jeremy Brue, Iowa State University, Ames, IA (J. Brue, M. Darr, R. Bergman, K. Webster)
11:30AM	152190702	Cultivation Assessment Test Apparatus Development Daniel Flippo, Kansas State University, Manhattan, KS (D. Flippo)

12:00PM	152189003	Dynamic response of the Chinese hickory tree under multi-directional forced vibration Bingliang Ye, Zhejiang Sci-Tech University, Hangzhou, China (L. He, C. Wu, X. Du, B. Ye, J. Tong)
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Tuesday, July 28 - 9:30AM-12:15PM

SESSION 212

ANAEROBIC DIGESTION - Sponsored by NRES-27, PRS-707

Moderator: Rebecca Larson, University of Wisconsin-Madison, Madison, WI

LOCATION: Mardi Gras D- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152190240	Start-up of a Pilot Scale Anaerobic Digestion System for Deep-Pit Swine Finishing Barn Teng Lim, University of Missouri, Columbia, MO (T. Lim, B. Harvey, J. Zulovich)
9:50AM	152188764	Kinetic and microbial community analysis for enhanced food waste hydrolysis: an investigation on pH Jingwei Ma, Washington State University, Pullman, WA (J. Ma, L. Yu, Q. Zhao, S. Chen, C. Frear)
10:05AM	152190558	The performance of anaerobic digestion of poultry litter and an optimal C/N ratio Chen Zhang, University of Delaware, Newark, DE (C. Zhang, H. Li, X. Yang)
10:20AM	152189414	Use of respirometer in the evaluation of the fractal kinetics of the solid-state anaerobic digestion of corn stove Zhiwu Wang, The Ohio State University, Wooster, OH (F. Xu, Y. Li, Z. Wang)
10:35AM		Break
10:45AM	152187836	Effects of Total Solid, Volatile Solid, Ammonia and Ratio of Carbon to Nitrogen on Methane Production in Anaerobic Co-Digestion of Poultry Litter and Wheat Straw Jiacheng Shen, university of arkansas, Fayetteville, AR (J. Shen, J. Zhu)
11:00AM	152190212	Recycling AD effluent as dilution water for AD process: effects of TAN and Salinity Iftikhar Zeb, Washington State University, Pullman, WA (I. Zeb, J. Ma, L. Yu, Q. Zhao, C. Frear)
11:15AM	152190860	Utilizing AnMBR Technology and Bioaugmentation to Improve Energy Recovery from Wastewater Ana Martin-Ryals, University of Illinois at Urbana-Champaign, Urbana, IL (A. Martin-Ryals, L. Schideman, M. Ong)
11:30AM	152190945	Effect of Moisture Content and Leachate Recirculation Frequency on Biogas Production Performance during Solid-State Anaerobic Digestion of Dairy Manure Heekwon Ahn, Chungnam National University, Daejeon, Korea (the Republic of) (E. kim, S. Lee, J. Lee, H. Ahn)

Silent Auction & Raffle
in the Exhibit Hall

Fun begins at Sunday's **Welcome Reception!**

TUESDAY, JULY 28

Tuesday, July 28 - 9:30AM-12:00PM

SESSION 213

ADVANCES IN EVAPOTRANSPIRATION ESTIMATES, MEASUREMENTS, AND MODELING - Sponsored by NRES-21

Moderator: Devendra Amatya, USDA Forest Service, Cordesville, SC

LOCATION: Jackson- 5th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152189866	Measuring the uncertainty and sensitivity of the Mississippi Irrigation Scheduling Tool (MIST) Anna C. Linhoss, Mississippi State University, Starkville, MS (A.C. Linhoss)
9:50AM	152180713	A new DSSAT-CSM evapotranspiration module: ASCE standardized reference evapotranspiration with dual crop coefficient Kendall DeJonge, USDA-ARS, Fort Collins, CO (K. DeJonge, K.R. Thorp)
10:05AM	152182712	Cover Crop Evapotranspiration And Crop Coefficients Vasudha Sharma, UNL, Lincoln, NE (V. Sharma, S. Irmak)
10:20AM	152187562	Quantification and Investigation of Long Term Spatio-Temporal Trends in Maize and Soybean Evapotranspiration and Crop Water Productivity in the USA High Plains Meetpal S. Kukal, University of Nebraska-Lincoln, Lincoln, NE (M.S. Kukal, S. Irmak)
10:35AM		Break
10:45AM	152188992	The Estimation of Reference Evapotranspiration based on Gamma Test and Gene Expression Programming Using the Weather Data Set from Different Climatic Zones in China. Zhenwu Wang, ZheJiang university, College of Biosystems Engineering and Food Science, Hangzhou, China (Z. Wang, L. Yao, Z. Guo)
11:00AM	152190799	Estimates of Actual Evapotranspiration using a Hybrid Modeling Approach over Vineyards Hatim M. Geli, Utah State University, Logan, UT (H.M. Geli, T. Xia, W.P. Kustas, M.C. Anderson, K.A. Semmens, J.G. Alfieri, F. Gao, L. McKee, J.H. Prueger, C.M. Neale, L. Sanchez, M.M. Alsina)
11:15AM	152191015	Mapping Agricultural Water Requirements in California through Integration of Satellite and Surface Observation Networks Forrest Melton, NASAARC-CREST, Moffett Field, CA (F. Melton, L. Johnson, K. Post, A. Guzman, A. Michaelis)

Tuesday, July 28 - 9:30AM-12:30PM

SESSION 215

IMPROVED HYDRAULIC STRUCTURES AND CHANNELS: A TRIBUTE TO 75 YEARS OF USDA-ARS HYDRAULIC ENGINEERING RESEARCH AT STILLWATER, OK -

Sponsored by NRES-251, NRES-25
Moderator: Sherry Hunt, USDA-ARS HERU, Stillwater, OK

LOCATION: Carondelet- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction Scientists at the USDA-ARS Hydraulic Engineering Research Unit have been conducting research in support of US agriculture for 75 years. This session is to provide information regarding the research, the application of the research results, and the impact the research has had on US agriculture over the 75 year history USDA-ARS in Stillwater, OK.

9:35AM	152155407	A Historic Overview of the USDA, ARS Outdoor Hydraulic Laboratory at Stillwater, OK Darrel M. Temple, USDA, ARS, Glencoe, OK (D.M. Temple, S. Hunt)
9:50AM	152189345	Impact of the ARS Hydraulic Engineering Research Center on USDA-NRCS Grassed Waterway Design William R. Reck, USDA-NRCS, Washington, (W.R. Reck)
10:05AM	152189060	Partners in Research, Partners in Conservation Chris Stoner, USDA-NRCS, Stillwater, OK (C. Stoner)
10:20AM	152190634	West Fork Kickapoo – Pilot Structure Klinkner Structure history Scott A. Mueller, USDA, Madison, WI (S.A. Mueller)
10:35AM	152188458	From 1954 to 2014 - 60 Years of NRCS Flood Control Dams in Virginia Alica Ketchum, USDA Natural Resources Conservation Service, Richmond, VA (A. Ketchum, M.J. Lyons)
10:50AM		Break
11:00AM	152328698	USDA Small Watershed Program Claudia Hoeft, USDA NRCS, Washington, (C. Hoeft)
11:15AM	152176753	Recent Advances in Quantifying Cohesive Soil Erodibility using Jet Erosion Tests (JETs) Garey Fox, Oklahoma State University, Stillwater, OK (G. Fox, A.T. Al-Madhachi, E. Daly, A. Khanal, S. Hunt)
11:30AM	152181276	Bureau of Reclamation use of Erosion-Modeling Innovations from ARS-Stillwater Tony L. Wahl, Bureau of Reclamation, Golden, CO (T.L. Wahl)
11:45AM	152189979	Friction Factor Relationship for Stepped Chutes with Slopes 10 to 30° Sherry Hunt, USDA-ARS HERU, Stillwater, OK (S. Hunt, K.C. Kadavy)
12:00PM	152189828	USDA-ARS Hydraulic Engineering Research Unit: Current and Future Research Program Sherry Hunt, USDA-ARS HERU, Stillwater, OK (S. Hunt)

Tuesday, July 28 - 9:30AM-12:15PM

SESSION 216

MODELING OF WATER QUALITY AND HYDROLOGY - PART 1 -

Sponsored by NRES-21
Moderator: Xinhua Jia, North Dakota State University, Fargo, ND

LOCATION: Bonaparte- 4th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152162595	Evaluation of APEX 0806 to simulate P dynamics in tile-drained fields William Ford, USDA-ARS, Columbus, OH (W. Ford, K.W. King, M.R. Williams)
9:50AM	152188725	Analysis of Recommended Agricultural Best Management Practices for Phosphorus Reduction in the Maumee Watershed Marie C. Gildow, Ohio State University, Columbus, OH (M.C. Gildow, S. Gebremariam, N.R. Aloysius, J. Martin)
10:05AM	152188726	Assessing the Impacts of Grazing Management Practices on Watershed Hydrology and Water Quality Jong-Yoon Park, Texas A&M AgriLife Research, Vernon, TX (J. Park, S. Ale, R. Teague)
10:20AM	152188750	Simulating the effects of irrigation and crop management practices on soil profile nitrate levels and nitrate leaching to groundwater Srinivasulu Ale, Texas A&M AgriLife Research, Vernon, TX (S. Ale, P. Adhikari, N. Modala)
10:35AM	152188857	Uncertainty and equifinality driven by rainfall in the APEX model Maria Librada Chu, University of Illinois, Urbana, IL (A. Prada, M. Chu, J. Guzman, D. Moriasi, K.W. King, D. Bosch, D. Bjorneberg, S. Teet)
10:50AM		Break

TUESDAY, JULY 28

11:00AM	152189423	Unravelling the Complexity of Landscape Management in a Water-Subsidized Watershed in NW Costa Rica Rafael Muñoz-Carpena, University of Florida, Gainesville, FL (R. Muñoz-Carpena, A. Alonso)
11:15AM	152189809	Development of Digital Groundwater-Flow Models for the Rush Springs Aquifer in West-Central Oklahoma Qualla J. Ketchum, Oklahoma State University, Shawnee, OK (Q.J. Ketchum, G. Fox, C. Neel)
11:30AM	152189829	Estimating Natural Seepage Rates Based on Soil Drainage Class and Color R. W. Skaggs, North Carolina State University, Raleigh, NC (R.W. Skaggs, M. Vepraskas, G. Chescheir)
12:00PM	152191052	An evaluation of phosphorus critical source areas and management alternative impacts on the water quality of Lake Prespa, Macedonia Naresh Pai, Stone Environmental, Inc., Montpelier, VT (N. Pai, M.F. Winchell, D. Dilks, M. Watzin, J. Moore, D. Sekovski)

Tuesday, July 28 - 9:30AM-1:00PM

SESSION 217

ENGINEERING FOR URBAN, WATER AND ENVIRONMENTAL APPLICATIONS - PART 1 - Sponsored by NRES-261, PAFS-303

Moderators: Stacia Davis, Louisiana State University AgCenter, Bossier City, LA and Steven Hall, Louisiana State University, Baton Rouge, LA

LOCATION: Regent- 4th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152190826	Energy exchange by convection in a closed greenhouse with a pipe heating system: a CFD analysis Jorge Flores-Velazquez, Instituto Mexicano de Tecnología del Agua, Cuernavaca, Mexico (J. Flores-Velazquez, A. Rojano, A. Rojas-Rishor, W. Ojeda)
9:50AM	152179410	Recharging Injection Wells with Freshwater in Forming Hydraulic Barrier to Halt Saltwater Landwards Lorcelie B. Taclan, Adventist University of the Philippines, Cavite, Philippines (L.B. Taclan, I. Agulto, E. Taclan, E. Abuel, L. Arit, E.B. Taclan)
10:05AM	152181829	Simulated performance of evapotranspiration based irrigation controllers using soil water balance models Stacia L. Davis, Louisiana State University AgCenter, Bossier City, LA (S.L. Davis, M.D. Dukes)
10:20AM		Break
10:30AM	152183784	Design and optimization of end-effector for automatic plug seedling transplanter in greenhouses Zhuohua Jiang, College of Biosystems Engineering and Food Science, Zhejiang University, Hangzhou, China (Z. Jiang, Y. Hu, H. Jiang, J. Tong)
10:45PM	152187980	LED intensity and ratio testing to optimize plant growth and development Srinivasa Reddy, McGill University, Sainte Anne De-Bellevue, Canada (S. Reddy, M.G. Lefsrud)
11:00PM	152190595	Changes in Quality of Potato Stored at Different Temperatures and Its Kinetics Tridib K. Goswami, IIT KHARAGPUR, Kharagpur, India (T.K. Goswami)

Tuesday, July 28 - 9:30AM-12:15PM

SESSION 218

NUTRIENT TRANSPORT AND CYCLING - Sponsored by NRES-224

Moderator: Sanjay Shukla, Immokalee, FL
LOCATION: Bacchus- 4th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152176505	Estimating Streambank Phosphorus Loads: How Much Phosphorus do Streambanks Contribute at the Watershed Scale? Rebecca Purvis, Oklahoma State University, Stillwater, OK (R. Purvis, G. Fox, C. Penn, D. Storm, A. Mittelstet, R. Miller)
9:50AM	152190114	Characterize an agricultural stream before restoration period in Goldsboro, NC Chiao-Wen Lin, North Carolina State University, Raleigh, NC (C. Lin, F. Birgand, K. Aveni-Deforge, B. Maxwell)
10:05AM	152189612	Characterization of stream restoration impacts on trade-offs in nutrient biogeochemistry Sara K. McMillan, Purdue University, West Lafayette, IN (S.K. McMillan, P.G. Vidon, M.K. Welsh)
10:20AM	152180982	Impact of subsurface drainage management and organic manure and chemical fertilizer on nutrient loss Chin Tan, Agriculture & Agri-Food Canada, Harrow, Canada (C. Tan, T. Zhang, Z. Zheng)
10:35AM	152189015	A Comparison of Dissolved Inorganic Nitrogen, Chloride, and Potassium Loss in Conventional and Conservation Tillage David D. Bosch, USDA, Tifton, GA (D.D. Bosch, T. Potter, T. Strickland, R. Hubbard)
10:50AM		Break
11:00AM	152181012	Effect of long-term cropping systems and fertilization on phosphorus loss Chin Tan, Agriculture & Agri-Food Canada, Harrow, Canada (T. Zhang, C. Tan, Z. Zheng, C. Drury)
11:15AM	152182622	Quantifying the Temporal and Spatial Inequality of Nutrient Transport to the Chesapeake Bay with a Novel Metric Heather E. Gall, The Pennsylvania State University, University Park, PA (H.E. Gall, D. Schultz, A. Everhart)
11:30AM	152189276	HYDRUS-1D simulation of potassium transport in a saline tropical soil Jarbas H. Miranda, "Luiz de Queiroz" College of Agriculture (ESALQ/USP), Piracicaba, Brazil (R.S. Silva Santos, J.H. Miranda, M.T. van Genuchten, R. Cooke)
11:45AM	152190665	Phosphorus and Nitrogen Losses via Leaching and Surface Runoff from Stacking of Poultry Litter Jian Liu, Pasture Systems and Watershed Management Research Unit, USDA-Agricultural Research Service, State College, PA (J. Liu, P. Kleinman, D. Beegle, J. Weld, A. Sharpley, L. Saporito, J. Schmidt)
12:00PM	152189921	Impact of biochar additions to nitrogen leaching in sand columns Rebecca Larson, University of Wisconsin-Madison, Madison, WI (A. Bradley, R. Larson, T. Runge)

TUESDAY, JULY 28

Tuesday, July 28 - 9:30AM-12:00PM

SESSION 219

WETLANDS AND COASTAL SYSTEMS

- Sponsored by NRES-25, NRES-261

Moderator: Anna Linhoss, Mississippi State University, Starkville, MS

LOCATION: Iberville- 4th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152189852	Can a created brackish marsh truly be a carbon sink? Michael Burchell, NC State University, Raleigh, NC (M. Burchell)
9:50AM	152190683	Ecohydrologic Factors to Manage a Northern Everglades Marsh Kyle Douglas-Mankin, US FWS, Wellington, FL (K. Douglas-Mankin)
10:05AM	152189932	Eco-Hydrology of a Southeastern Tidal Freshwater Forested Wetland: Huger Creek, Coastal, South Carolina Devendra M. Amatya, USDA Forest Service, Cordesville, SC (D.M. Amatya, C. Trettin, C.J. Allan)
10:20AM	152186722	How to Model Nitrate Reduction in Restored Wetlands? An Evaluation of the Reliability of Four Nitrate Reduction Models Tiffany Messer, North Carolina State University, Raleigh, NC (T. Messer, M. Burchell, F. Birgand)
10:35AM	152190786	Assessing harmful algal bloom production in Lake Erie using linked watershed and coastal ecosystem models Derek Schlea, LimnoTech, Ann Arbor, MI (D. Schlea, E. Verhamme, T. Redder, J. DePinto)
10:50AM		Break
11:00AM	152210475	Develop a remote sensing protocol to characterize wetlands at Northern Gulf Coastal Zone of Mexico Qingmin Meng, Mississippi State University, Starkville, MS (Q. Meng)
11:15AM	152190178	Hydrologic Characterization of Three headwater Mountain Wetlands in Southeastern Kentucky, USA Christopher Barton, University of Kentucky, Lexington, KY (C. Barton, T. Littlefield, C.T. Agouridis, C. Hoy, A. Drayer)
11:30AM	152182681	Developing tools for modeling selected ecological changes induced by upstream reservoir management along a small river using HEC-RAS, HEC-EFM and additional spatial statistical tools Natalia Shim, Univ of Georgia, Athens, GA (E. Tollner, N. Shim)
11:45AM	152145044	Coastal Bioengineering for Sustainable, Cost Effective and Ecological Solutions Steven Hall, LSU, Baton Rouge, LA (S. Hall, M. Thomas, J. Steyer)

Tuesday, July 28 - 9:30AM-12:15PM

SESSION 220

REGULATORY-DRIVEN WATERSHED ASSESSMENT

- Sponsored by NRES-21
Moderator: Debabrata Sahoo, Woolpert Inc, West Columbia, SC

LOCATION: Mardi Gras E- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152156337	Local Governmental Implementation Challenges Charles C. Jarman, Clemson University, North Charleston, SC (C.C. Jarman)
9:50AM	152190055	Use of monitoring data and water quality modeling in the City of Durham's stormwater program Michelle Woolfolk, City of Durham, Durham, NC (M. Woolfolk, J. Cox)

10:05AM	152192398	Developing an Instrumented Watershed in the West Himalayas, India: Needs and Challenges for Hydrologic Sciences Sumit Sen, Indian Institute of Technology Roorkee, Roorkee, India (S. Sen, V. Kumar)
10:20AM	152190531	Optimization of pollutant reduction Reid Christianson, Center for Watershed Protection, Boonsboro, MD (R. Christianson)
10:35AM		Break
10:45AM	152189857	Using GIS to Delineate Headwater Stream Origins in the Appalachian Coalfields of Kentucky Carmen T. Agouridis, University of Kentucky, Lexington, KY (J. Villines, C.T. Agouridis, R. Warner, C. Barton)
11:00AM	152180730	A GIS – Based Model Management System in Support of Comprehensive Everglades Restoration Plan, Project Design and Operation in South Florida (CERP-MMS) Yanling Zhao, South Florida Water Management District, West Palm Beach, FL (Y. Zhao)
11:15AM	152181780	Modelling of future microbial load reductions to meet recreational water quality standards in freshwater systems. Rory Coffey, University College Dublin, Dublin, VA, Ireland (R. Coffey, B. Benham, M. Wolfe, K. Kline, E. Cummins)
11:30AM	152189981	Best management practices for reducing nutrient loads in a sub-watershed of Chesapeake Bay area M G Mostofa Amin, Pennsylvania State University, University Park, PA (M. Amin, T.L. Veith, A.S. Collick, H. Karsten)
11:45AM	152190764	A Cost Effective Modeling Approach for Targeting the Location of Low Impact Development Practices within Forecasted Growth Scenarios to Achieve Water Quality Targets David B. Willis, Clemson University, Clemson, SC (D.B. Willis, C. Privette)

Tuesday, July 28 - 9:30AM-12:00PM

SESSION 221

ANIMAL RESPONSE TO ENVIRONMENT

- Sponsored by PAFS-301
Moderator: John Stinn, Iowa Select Farms, State Center, IA

LOCATION: Balcony J- 4th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152190863	Use of Udder Skin Temperature as a Heat Stress Indicator in Lactating Dairy Cattle Kristen Perano, Cornell University, Ithaca, NY (K. Perano, K. Gebremedhin)
9:50AM	152190389	Assessment of Lighting Needs of Laying Hens via Preference Test Hongwei Xin, Iowa State University, Ames, IA (H. Ma, H. Xin, T.A. Shepherd, Y. Zhao, B. Li, I. Alvarez-Castro)
10:05AM	152189319	Behaviors of Pullets and Laying Hens under Light-Emitting Diode (LED) vs. Compact Fluorescent (CF) Lights Kai Liu, Iowa State University, Ames, IA (K. Liu, H. Xin)
10:20AM	152190148	A Study on Quantitative Metrics for Evaluating Animal Behavior in Confined Environments Colin T. Usher, Georgia Tech Research Institute, Atlanta, GA (C.T. Usher, W.D. Daley, A.B. Webster, C. Ritz)
10:35AM		Break
10:45AM	152188972	Automatic detection of changes in group pig lying behaviour using image analysis Abozar Nasirahmadi, Newcastle University, Newcastle Upon Tyne, United Kingdom (A. Nasirahmadi, S.A. Edwards, B. Sturm)

TUESDAY, JULY 28

- 11:00AM 152189554 Economic Feasibility of Acclimation System of Laying Hens Aviary**
Vanessa Kodaira, Unesp, Dracena, Brazil (V. Kodaira, D.F. Pereira, L.G. Bueno, N.M. Soares, D.D. Salgado, A.J. Lellis)
- 11:15AM 152189578 The Performance of Mating Behaviour in Relationship with Fertility of Eggs Laid and the Effect of Group Size**
Hongya Zheng, China Agricultural University, Beijing, China (H. Zheng, B. Li, G. Chen, Z. Shi, G. Teng)

Tuesday, July 28 - 9:00AM-12:00PM

SESSION 222

PROCESSING SYSTEMS POSTER SESSION - Sponsored by PRS

Moderator: Litha Sivanandan,
West Virginia Univ

LOCATION: Exhibit Hall- 2nd Floor

- | Poster # | Paper # | Title/Authors |
|----------|-----------|--|
| 30 | 152184759 | Factors influencing feed ingredient flowability
Kurt A. Rosentrater, Iowa State University, Ames, IA (K.A. Rosentrater, X. Jiang) |
| 31 | 152184612 | Determining storage effects for whole stillage, thin stillage, and condensed distillers solubles
Kurt A. Rosentrater, Iowa State University, Ames, IA (K.A. Rosentrater, L. Yang) |
| 32 | 152188476 | Energy Consumption of Corn Stover Size Reduction
Kurt A. Rosentrater, Iowa State University, Ames, IA (X. Cao, K.A. Rosentrater) |
| 33 | 152189586 | Techno-Economic analysis (TEA) and Life-Cycle Assessment (LCA) of Extruded Aquafeed
Kurt A. Rosentrater, Iowa State University, Ames, IA (C.f. Ozoh, K.A. Rosentrater) |
| 34 | 152190086 | Effect of pretreatment of soy insoluble fiber with Escherichia coli KO11 on ethanol production in an integrated corn-soy biorefinery
Kurt A. Rosentrater, Iowa State University Department of Food Science and Human Nutrition and Center for Crops Utilization Research, Ames, IA (J.K. Sekhon, S. Jung, T. Wang, L.A. Johnson, K.A. Rosentrater) |
| 35 | 152190196 | Energy consumption during pelleting of DDGS, and resultant pellet quality
Kurt A. Rosentrater, Iowa State University, Ames, IA (M. Ma, K.A. Rosentrater) |
| 36 | 152190110 | A methanotrophic bacterium isolated from solid-state anaerobic digestion system
Xumeng Ge, The Ohio State University, Wooster, OH (W. Zhang, X. Ge, Y. Li, Z. Yu, Y. Li) |
| 37 | 152166495 | Temperature and Moisture Variation in a Textured Feed Packaged in Woven Polypropylene Bags During Storage
Lester Pordesimo, ADM Alliance Nutrition, Inc., Quincy, IL (L. Pordesimo, J.L. Dunn, B.D. Bevans, C. Schrolla) |
| 38 | 152188563 | Laboratory-scale hermetic storage of wheat and maize against the infestation of red flour beetle (Tribolium castaneum) and maize weevil (Sitophilus zeamais)
Kurt A. Rosentrater, Iowa state university, Ames, IA (C. Zhang, K.A. Rosentrater, C. Bern) |
| 39 | 152189343 | The Economic Argument for Not Granulating Single Superphosphate
Miles C. Grafton, Massey University, Palmerston North, New Zealand (M.C. Grafton, L.A. Willis, I.J. Yule, D. Acebes, M.J. Manning) |
| 40 | 152189392 | Determination of Accurate Sorption Kinetics of Soybeans for Effective In-Bin Drying and Storage
Zach Young, University of Arkansas Division of Agriculture, Fayetteville, AR (G. Atungulu, Z. Young, H. Zhong, S. Thote) |

- 41 152189410 Effects of Periodic Dehydration and Rehydration on Soybean Germination Rates and Vigor**
Zach Young, University of Arkansas Division of Agriculture, Fayetteville, AR (Z. Young, G. Atungulu)
- 42 152190331 Optimization of infrared rotary drum dryer for rough rice**
Chao Ding, College of Food Science and Engineering, Nanjing University of Finance and Economics, Nanjing, CA, China (C. Ding, R. Khir, Z. Pan, K. Tu, H. El-Mashad)
- 43 152180032 The Effect of Drying on Triticale Seed Germination and Insect Mortality**
Won Suk Lee, University of Florida, Gainesville, FL (M.K. Khedher Agha, W. Lee, R.A. Bucklin, K.K. Khedher agha, R. Mankin)
- 44 152189967 One-step Cleaning-in-Place for Milking Systems using Blended Electrolyzed Oxidizing Water and Mathematical Modeling of Deposit Removal from Stainless Steel Pipelines**
Virendra M. Puri, Penn State, State College, PA (X. Wang, V.M. Puri, A. Demirci, R. Graves)
- 45 152187787 Enhanced recovery of ammonia from swine manure anaerobic digester effluent using gas-permeable membranes and aeration**
Patrick Dube, USDA-ARS, Florence, SC (P. Dube, M. Vanotti, A. Szogi)
- 46 152189652 Anaerobic Co-digestion of Swine Wastewater and Vegetable Wastes**
Yu-shan Lin, National Taiwan University, Taipei, Taiwan (Y. Lin, C. Chou, A. Liu)
- 47 152189684 The Application of Entrapped Mixed Microbial Cells in Anaerobic Digestion of Domestic Wastewater**
Shiou Jing Lin, Taiwan National University, Taipei, Taiwan (S. Lin, C. Chou, A. Liu)
- 48 152182140 Optimization and Evaluation of Infrared Dry-Peeling Technology for Bartlett Pears**
Yi Shen, University of California, Davis, CA (Y. Shen, R. Khir, Z. Pan)
- 49 152189405 Quality Changes During Hermetic and Non-Hermetic Storage of Maize**
Rashid Suleiman, Iowa State University, Ames, IA (R. Suleiman, K.A. Rosentrater, D. Bbosa, C. Bern, B.J. Thomas)
- 50 152188775 Dielectric properties of bean weevil, grain moth and their hosts (common bean and amaranth) using the resonant cavity technique**
Maria E. Sosa-Morales, Universidad de Guanajuato, Irapuato, Mexico (M.E. Sosa-Morales, E.S. Hernández-Gómez, J.L. Olvera-Cervantes, A. Corona-Chavez, P. Porras-Loaiza)
- 51 152188780 Postharvest quality of mandarin fruits after traditional and microwave treatments**
Maria E. Sosa-Morales, Universidad de Guanajuato, Irapuato, Mexico (M.E. Sosa-Morales, D.B. Queb-Gonzalez, A. Lopez-Malo)
- 52 152181306 Portable Concentration of Agricultural Rinsate Using Electrolysis for the Detection of Bacterial Contamination**
Daniel M. Jenkins, University of Hawaii at Manoa, Honolulu, HI (E.K. Horwitz, R. Rodriguez, T. Robertson, D.M. Jenkins)

POSTER INFORMATION

Size of poster boards: 91 inch wide by 44.5 inch deep
Mount poster using push pins

Posters must be removed no later than 15 minutes after the session.

PLEASE NOTE: Those not removed by presenter will be removed by staff and disposed of at the end of the day.

TUESDAY, JULY 28

53	152189536	Measurement of soybean respiration for dry matter loss estimation Kaneeka Sood, University of Illinois Urbana Champaign, Urbana, IL (K. Sood, M. Danao, R. Gates, K. Rausch)
54	152178833	Study on performance and effect of the ultrafine extinguishing agent Meisheng Jiang, China Agricultural University, Beijing, China (M. Jiang, K. Peng, N. Leng, C. Liu, S. Wang)
55	152183641	Study on physicochemical characteristics of corns from different provinces Tengfei Li, China Agricultural University, Beijing, China (X. Shen, H. Wang, F. Peng, J. Yang, T. Li, G. Zhang)
56	152183581	Study on effect of regional diversity to grinding characteristics of corn Tengfei Li, China Agricultural University, Beijing, China (G. Zhang, H. Wang, X. Chen, D. Kong, J. Yang, X. Shen, F. Peng, T. Li)
57	152189544	Drying Characteristics of Wood and Herbaceous biomass Sohrab Rahimi, West Virginia University, Morgantown, WV (S. Rahimi, K. Singh)
58	152188588	Techno-Economic Modeling of Soybean Oil Expelling Process from 1980 to 2014 Ming-Hsun Cheng, Iowa State University, Ames, IA (M. Cheng, K.A. Rosentrater)
59	152188570	TEA (Techno-economic analysis) and LCA (Life cycle assessment) of small, medium, and large scale wine-making processes Kurt A. Rosentrater, Iowa state university, Ames, IA (C. Zhang, K.A. Rosentrater)
60	152189933	Environmental effects and economic analysis of adhesives: a review of life cycle assessment (LCA) and techno-economic analysis (TEA) Minliang Yang, Iowa State University, Ames, IA (M. Yang, K.A. Rosentrater)
61	152183610	Study on the selection of sieve aperture size during different moisture corn grinding Guodong Zhang, China Agricultural University, Beijing, China (G. Zhang, H. Wang, J. Yang)
62	152188986	Grinding Characteristics and Particle Distribution of Four Feed Ingredients Tengfei Li, China Agricultural University, Beijing, China (J. Yang, H. Wang, F. Peng, D. Kong, X. Chen, T. Li)
63	152189398	Hammer Mill Size Reduction Comminution Law Coefficients for Corn and Grain Sorghum Curtis L. Weller, University of Nebraska-Lincoln, Lincoln, NE (E. Newgard, H.A. Pushpadass, C.L. Weller, K. Eskridge, M.A. Hanna, R. Mugabi, R. Flores)
64	152190690	Hydrodynamic Cavitation as a Pretreatment Process for Development of High Protein Feed Replacers from Oilseeds Meal Bishnu Karki, South Dakota State University, Brookings, SD (B. Karki, K. Muthukumarappan, W. Gibbons)
65	152189677	The Anaerobic Digestion of Pickled Mustard Saline Wastewater Using Entrapped Mixed Microbial Cells An-Chi Liu, National Taiwan University, Taipei, Taiwan (A. Liu, C. Chou)
66	152191191	Effect of Processing Parameters on Dried Blueberry Yield Litha Sivanandan, West Virginia University, Morgantown, WV (L. Sivanandan, A. Smith, B. Kenney, S. Slider, J. Jaczynski, B. MacAulay)
67	152190158	Development of a laboratory scale corn flaking procedure and evaluation of processing and genetics on resistant starch in corn flakes Gurshagan Kandhola, University of Illinois at Urbana Champaign, Urbana, IL (G. Kandhola, N.J. Engeseth, M.O. Bohn, K. Rausch)
68	152181702	Modeling the Compressibility Behavior of Hard Red Wheat Varieties Aaron P. Turner, University of Kentucky, Lexington, KY (A.P. Turner, M. Montross, S.G. McNeill, N.K. Koeninger, S. Thompson, M. Casada, J.M. Boac, R. Bhadra)

69	152187773	Prediction of oil content of camelina seeds using near-infrared spectroscopy Ke Zhang, Kansas State University, Manhattan, KS (K. Zhang, Z. Tan, D. Wang)
70	152189027	Prediction Model and Process Optimization of Pellet Feed Cooling Proces Tengfei Li, China Agricultural University, Beijing, China (J. Yang, H. Wang, F. Peng, D. Kong, X. Chen, T. Li)
71	152180215	Performance Evaluation of Locally Fabricated Hammer Mills in Rural Uganda: Crafting a Test Protocol Robert Mugabi, University of Nebraska-Lincoln, Lincoln, NE, United States (R. Mugabi, C.L. Weller, Y. Byaruhanga)
72	152184958	Water pollution properties of chicken blood and its components Rafael A. Garcia, USDA-ARS, Wyndmoor, PA (R.A. Garcia, R.A. Haylock, K.A. Rosentrater)
73	152162509	The development of NiMgCeAl catalyst for methane dry reforming with carbon dioxide Fei Yu, Mississippi State University, Mississippi State, MS (Z. Bao, Y. Lu, Y. Li, F. Yu)
74	152189187	Economic and Process Benefits of Fractional Milling Herbaceous Feedstocks Prior to BioChemical or Thermochemical Conversion Neal A. Yancey, Idaho National Laboratory, Idaho Falls, ID (N.A. Yancey, J. Tumuluru, C. Conner)
75	152300122	Application and Research Apricots of Directional Transport Process Using Quaternion Chunyao Wang, Xinjiang University, Xinjiang, China (C. Wang)

Tuesday, July 28 - 9:30AM-11:00AM

SESSION 223

PHYSICAL AND CHEMICAL PROPERTIES OF BIORESOURCE PRODUCTS, CO-PRODUCTS, AND WASTE PRODUCTS - Sponsored by

PRS-707

Moderator: Kurt Rosentrater, Iowa State University, Ames, IA

LOCATION: Balcony K- 4th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152188580	Effects of culture conditions on F0F1 ATP synthase accumulation and activity of thermophilic bacteria Bacillus PS3 Hao Lu, North Carolina State University, Raleigh, NC (H. Lu, W. Yuan)
9:50AM	152184383	Canonical Correlation Analysis of Type I and Type IV Hypoallergenic Hevea Natural Rubber Latex Thin Films vs. Type I Circumallergenic and Type IV Hypoallergenic Guayule Natural Rubber Latex Thin Films Jessica L. Slutzky, The Ohio State University, Wooster, OH (J.L. Slutzky, A. Soboyejo, K. Cornish)
10:05AM	152181921	Agricultural Equipment Components from High Crop-Content Molding Compounds Casey Blabolil, Citadel Plastics, North Kingsville, OH (C. Blabolil, J. Olson, G. McCunn, T. Ngo)
10:20AM	152190045	Impact of Fiber Treatment on Oil Sorption Characteristics of Plant Fibers Dilpreet S. Bajwa, North Dakota State University, Fargo, ND (C. Wong, T. McGowen, S.G. Bajwa, D.S. Bajwa)
10:35AM	152190356	Optimization Study of Novolac Resins Utilizing Fast Pyrolysis Bio-oil Characteristics Melanie McDonald, Auburn University, Auburn, AL (M. McDonald, S. Adhikari)
10:50AM		Break

TUESDAY, JULY 28

Tuesday, July 28 - 11:00AM-12:15PM

SESSION 224

PHYSICAL PROPERTIES OF BIOMASS FOR PROCESSING AND SAFETY - Sponsored by PRS-701

Moderator: Lope Tabil, University of Saskatchewan, Saskatoon, SK Canada

LOCATION: Balcony K- 4th Floor

Time	Paper #	Title/Authors
11:00AM		Introduction
11:05AM	152180036	Performance of Hypoallergenic Foams from Natural Rubber Latex Cindy S. Barrera, The Ohio State University, Wooster, OH (C.S. Barrera, S. Monadjemi, K. Cornish)
11:20AM	152189431	Secondary measurement of biomass ash content through pycnometry and x-ray densitometry Ian J. Bonner, Idaho National Laboratory, Idaho Falls, ID (I.J. Bonner, W. Smith, S. Hernandez, J. Earl)
11:35AM	152190069	Monitoring Sugar Release during Pipeline Hydro-transport of Wheat Straw Mahdi Vaezi, University of Alberta, Edmonton, Canada (S. Ghatara, M. Kumar, M. Vaezi, A. Kumar, D. Bressler)
11:50AM	152181098	Briquetting of wheat, barley, canola and oat straw Lope G. Tabil, Department of Chemical and Biological Engineering, University of Saskatchewan, Saskatoon, Canada (L. Guo, L.G. Tabil, D. Wang, G. Wang, D. Lu)

Tuesday, July 28 - 9:30AM-12:00PM

SESSION 225

FOOD SAFETY ENGINEERING -

Sponsored by PRS-703

Moderators: Oliver Schluter, Leibniz Inst. for Agricultural Engineering, Potsdam, Germany and Litha Sivanandan, West Virginia University, Morgantown, WV

LOCATION: Balcony L- 4th Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152155176	A Cooperative Method for Determination of Aflatoxin B1 in Tea by Immunoaffinity Column Purification and HPLC-FLD with Post-Column Photochemical Derivatization Kai Peng, China Agricultural University, Beijing, China (K. Peng, M. Jiang, X. Kang, K. Yang, S. Wang, C. Liu)
9:50AM	152155506	Optimization of Process Parameters for Microwave Sterilization of Maize Based on Response Surface Methodology Kai Peng, China Agricultural University, Beijing, China (K. Peng, M. Jiang, L. Li, Z. Zhu, C. Liu, S. Wang)
10:05AM	152188468	Nonthermal plasma system for extending shelf life of raw broiler breast fillets Kurt C. Lawrence, USDA, ARS, Athens, GA (T.K. Walker, Y. Huang, H. Zhuang, K.C. Lawrence, K.M. Keener)
10:20AM		Break
10:30AM	152189346	Inactivation of Escherichia coli O157:H7 on the Surface of Goat Meat Using Copper and Organic Acids Alone and in Binary Combination Ajit K. Mahapatra, Fort Valley State University, Fort Valley, GA (S.L. Konkayala, A.K. Mahapatra, P.N. Bumpus, S.A. Ibrahim, G. Kannan)
10:45AM	152190310	Impact of continuous thermosonication at industrially-relevant flowrates on plasmin activity in stored skim milk: optimization using residence time and ultrasonic horn amplitude Cindu Annand, Iowa State University, Ames, IA (C. Annand, D. Grewell, S. Clark)

11:00AM	152189957	Modeling of deposit removal from stainless steel pipeline during CIP cleaning of milking system with electrolyzed oxidizing water Virendra M. Puri, Penn State, State College, PA (X. Wang, V.M. Puri, A. Demirci, R. Graves)
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Tuesday, July 28 - 9:30AM-12:45PM

SESSION 226

ENERGY EFFICIENCY FOR FOOD AND AGRICULTURAL PROCESSING - INVITED SPEAKERS - Sponsored by PRS-702

Moderator: Griffiths Atungulu, University of Arkansas, Fayetteville, AR

LOCATION: LA Galleries 1- 2nd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152213431	Experiences with Purdue University On-Farm Energy Audit Program Klein E. Ileleji, Purdue University, West Lafayette, IN (K.E. Ileleji)
9:50AM	152213276	Fan control strategies to minimize energy consumption in in-bin natural air drying of grain Chandra Singh, OPI Systems, Calgary, Canada (C. Singh)
10:05AM	152190368	Development and performance evaluation of an integrated steaming and drying unit for rice processing Ebenezer M. Kwofie, McGill University, St Anne-de-Belle-vue, Canada (E.M. Kwofie, M. Ngadi, r. Kok)
10:20AM	152189690	A survey of the energy consumption patterns and potential methods for energy efficiency and renewable energy integration within the food and beverage industries of five European countries Barbara Sturm, University of Kassel, Kassel, Germany (B. Sturm, S. Meyers, B. Schmitt)
10:35AM		Break
10:45AM	152183523	The Applied Study on Energy Saving and Quality Protection Dryer for Fermented Soybean Meal as Feedstuff Protein Jun Yin, Academy of State Administration of Grain, Xicheng District, China (Z. Zhang, J. Yin, Z. Wu, Z. Mao, Y. Qu)
11:00AM	152190724	Heat transfer analysis of a 38 L reactor for the production of epoxidized sucrose soyate Ewumbua M. Monono, North Dakota State University, Fargo, ND (E.M. Monono, D. Wiesenborn)
11:15AM	152190497	Effect of Cassava Flour Substitution on some Quality Characteristics of Heat Pump Dried Extruded Fish Feed Folasayo T. Fayose, Federal University, Oye-Ekiti, Ikole Campus, Nigeria (F.T. Fayose, Z. Huan, P. Olubambi)
11:30PM	152190682	Using Green Solvents (Terpenes) to Develop a Novel Continuous Oil Extraction Method for Jet Fuel Production from Carinata and Camelina Oilseeds. Bishnu Karki, South Dakota State University, Brookings, SD (B. Karki, K. Muthukumarappan, W. Gibbons)

TUESDAY, JULY 28

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 228

WOODY BIOMASS PROCESSING AND CONVERSION - Sponsored by ASE-12, PAFS-280

Moderator: Kevin Caffrey, North Carolina State Univ, Raleigh, United Kingdom

LOCATION: LA Galleries 1- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152187923	Top-lit updraft gasification – Characterization of biochar from a low bulk density biomass Arthur M. James, NC State University, Raleigh, NC (A.M. James, W. Yuan, M.D. Boyette, D. Wang, A. Kumar)
2:50PM	152189329	Densification of a Fermented Biomass Rich in Cellulolytic and Hemicellulolytic Enzymes Lope G. G. Tabil, University of Saskatchewan, Saskatoon, Canada (M. Soleimani, L.G. Tabil, L. Campbell, R. Hynes, T. Dumonceaux, L. Ketabi)
3:05PM	152190043	Comminution pathway energy comparison for “green” wood chips to “dry” 2mm particles David Lanning, Forest Concepts, Auburn, WA (D. Lanning, J.H. Dooley, C. Lanning)
3:20PM	152190079	Antimicrobial and antioxidant activity of centrifugal partition chromatography fractions of sweetgum bark water extract Angele Djioleu, University of Arkansas, Fayetteville, AR (A. Djioleu)
3:35PM		Break
3:45PM	152190258	Hot Water and Dilute Acid Pretreatment of Sub-millimeter Biomass Particles Libing Zhang, Washington State University, Richland, WA (L. Zhang, D. Lanning, J.H. Dooley, B. Yang)
4:00PM	152190362	Solubilization of lignin-derived chemicals in triblock copolymers micellar systems Mohammadali Azadfar, Washington State University, Pullman, WA (M. Azadfar, W. Hiscox, S. Chen)
4:15PM	152190722	Numerical modeling of “green” wood chips processed through rotary shea David Lanning, Forest Concepts, Auburn, WA (D. Lanning, J. Nairn)
4:30PM	152190369	Bioethanol Production from Iroko Timber (Chlorophora Excelsa) Babajide A. Adelekan, Federal College of Agriculture, Ibadan, Nigeria (B.A. Adelekan)

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 229

HANDS-ON LEARNING ACTIVITIES AND FACILITIES - Sponsored by EOPD-205, EOPD-206, EOPD-203, EOPD-204

Moderator: Kendall Kirk, Clemson University, Blackville, SC

LOCATION: LA Galleries 2- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152182667	Design and Use of an Apparatus to Teach Theory of Ventilation Inlets for Agricultural Structures John P. Chastain, Clemson University, Clemson, SC (J.P. Chastain, H.F. Massey)
2:50PM	152190125	Recover Lab Space- A How to Guide for Maximizing Square Footage in an Agricultural Mechanics Laboratory Gregory C. Langley, Tarleton State University, Stephenville, TX (G.C. Langley, L.G. Schumacher)
3:05PM	152190399	Enhancing student learning through Technology Travel Course: Ag Study Abroad program to Poland Jacek A. Koziel, Iowa State University, Ames, IA (J.A. Koziel)
3:20PM		Break

3:30PM	152190669	Teaching Electronics using Comprehensive Robots Ricky Mason, University of Kentucky, Lexington, KY (R. Mason)
3:45PM	152189938	Novel Miniaturized Gasification and Syngas Cleanup System as a Desktop Learning Module for Classroom Implementation Jacqueline Burgher, Clemson University, Blackville, SC (H.E. Valdetero, K.R. Kirk, T.R. Dobbins, P.M. Fravel)
4:00PM	152190040	Teaching Small Engine Diagnostics Using Mobile App Technology Hillary E. Valdetero, Washington State University, Pullman, WA (J. Burgher, S. Njau, A. Graviat, B. VanWie)

Tuesday, July 28 - 4:30PM-6:30PM

SESSION 230

ENERGY SYSTEMS POSTER SESSION - Sponsored by ES-01, PRS-280, ES-220

Moderators: Glenn Farris, AGCO, Duluth, GA
Ganti Murthy, Oregon State University, Corvallis, OR

LOCATION: Exhibit Hall- 2nd Floor

Poster #	Paper #	Title/Authors
1	152186571	Energy crop production on reclaimed mine land, marginal agricultural land, and prime agricultural land in Kentucky Mike Montross, University of Kentucky, Lexington, KY (M. Montross, A.P. Turner, N.K. Koeninger, J. Jackson)
2	152189302	Predicting moisture content of agricultural and forest residues at the time of collection Erin G. Webb, Oak Ridge National Laboratory, Oak Ridge, TN (E.G. Webb, S. Sokhansanj, I. Bonner, W. Smith)
3	152190065	Biomass size reduction model based on particle size distribution, mechanical shearing stress, and biomass species Manlu Yu, North Dakota State University, Fargo, ND (M. Yu, J. Shen, I. Cannayen, A.K. Pothula)
4	152187716	Enzyme adsorption and cellulose conversion during hydrolysis of alkali-pretreated corn stover Ellen Emanuel, University of Nebraska-Lincoln, Gretna, NE (E. Emanuel, D.R. Keshwani, C. Tai)
5	152187837	Reinforcement of Polylactic Acid (PLA) using Multi-Walled Carbon Nanotubes (MWNT) Ajay Kumar, Oklahoma State University, Stillwater, OK (A. Kumar, R. Isakki, S. Krishnan, S. Harimkar)
6	152188796	The Effects of Lignin S/G Ratios on Enzymatic Hydrolysis and Surface Area of Lignin Droplets Formed During Dilute Acid Pretreatment Ganti S. Murthy, Oregon State University, Corvallis, OR (C. Oldfield, G.S. Murthy)
7	152189562	Effect of solid dosages and feeding time of dilute acid pretreated miscanthus on ethanol production using fed-batch simultaneous saccharification and fermentation processes Ganti S. Murthy, Oregon State University, Corvallis, OR (H.J. Kadhum, G.S. Murthy)
8	152190067	Development and validation of a kinetic model of cellulose hydrolysis by action of multiple enzymes Deepak Kumar, Oregon State University, Corvallis, OR (D. Kumar, G.S. Murthy)
9	152190084	Hydrolysis of microcrystalline cellulose by cellobiohydrolase I and cellobiohydrolase II from Trichoderma reesei Deepak Kumar, Oregon State University, Corvallis, OR (D. Kumar, G.S. Murthy)

- 10 152189558 **Nitrogen and phosphorus uptake kinetics by *Chlorella vulgaris* grown in treated landfill leachate**
Ganti S. Murthy, Oregon State University, Corvallis, OR (L. Xu, S.G. White, D. Hackleman, G.S. Murthy)
- 11 152190221 **Effect of urea addition on giant reed ensilage and subsequent methane production by anaerobic digestion**
Shan Liu, China Agriculture University, Beijing, OH, China (S. Liu, X. Ge, R. Dong, C. Pang, Y. Li)
- 12 152190124 **Comparison of digestate from solid anaerobic digesters and effluent from liquid anaerobic digesters as inocula for solid state anaerobic digestion of yard trimming**
Fuqing Xu, Ohio State University, Wooster, OH (F. Wang, F. Xu, Y. Li)
- 13 152188765 **Super Water-Absorbent Composite Derived from Soybean Hulls and Low Cost Biodegradable Binders**
Yongun Han, Northeast Agricultural University, Harbin, KS, China (Y. Han, X. Sun, K. Zhang, D. Wang)
- 14 152188833 **Techno-economic analysis and life cycle assessment of bio-oil production from microalgae via hydrothermal liquefaction process**
Ankita Juneja, Oregon State University, Corvallis, OR (A. Juneja, G.S. Murthy)
- 15 152188895 **Developing Life Cycle Inventory Data for Science-Based Strawberry Production Sustainability Metrics**
Seyed Mohammad Hossein Tabatabaie, Biological and Ecological Engineering, Oregon State University, Corvallis, OR (S. Tabatabaie, G.S. Murthy)
- 16 152190021 **Modeling and Gasification of Food Waste and its Major Components**
Ajay Kumar, Oklahoma State University, Stillwater, OK (J.C. Collins, A. Kumar)
- 17 152190262 **Introducing OPV Cells in a Fertigation Systems**
Federico F. Hahn, Universidad Autonoma Chapingo, Chapingo, Mexico (F.F. Hahn, P. Dastoor)
- 18 152188870 **Effect of electrode-surface area on electricity generation in microbial fuel cells**
Mami Ohwada, Utsunomiya University, Utsunomiya, Japan (M. Ohwada, T. Yamashita, H. Yokoyama, A. Ikeguchi)
- 19 152185851 **Catalytic conversion of biomass pyrolysis-derived compound with MgO and 2,4-dimethylquinoline modified HZSM-5 catalysts**
Roger Ruan, University of Minnesota, Saint Paul, MN (B. Zhang, Q. Xie, S. Liu, Z. Zhong, M. Min, P. Chen, R. Ruan)
- 20 152189214 **The influence of harvest time and fertilizer treatment on the properties of and fast pyrolysis products from *Miscanthus x giganteus***
Shuangning Xiu, NC A&T State Univ., Greensboro, NC (S. Xiu)
- 21 152189192 **Integrated Study of Microwave-Assisted Bio-oil Production from Biomass Pyrolysis**
Peng Peng, University of Minnesota, Saint Paul, MN (P. Peng, B. Zhang, Q. Xie, S. Liu, Y. Liu, R. Ruan)
- 22 152164303 **Pyrolysis of Bioenergy Crops (*Switchgrass* and *Miscanthus*) Grown on Reclaimed Mining Land in West Virginia**
Kaushlendra Singh, West Virginia University, Morgantown, WV (O.J. Oginni, K. Singh)
- 23 152155849 **Thermo-Economic Analysis of Compressor Inlet Air Pre-cooling Techniques of a Gas Turbine Power Plant**
Kevin N. Nwaigwe, Federal University of Technology, Owerri, Nigeria (V. Okafor, P. Ejebu, K.N. Nwaigwe, N. Ogueke)
- 24 152192071 **Development and Analysis of a Plug-Flow Hydrothermal Liquefaction Reactor for Biomass Conversion**
Mitchell Minarick, Univ of Illinois, Lincoln, NE (M. Minarick, Y. Zhang)
- 25 152187970 **TG-FTIR Method for Characterization of Pyrolysis Oils in Chemical Families**
Filip Stankovikj, Washington State University, Pullman, WA (F. Stankovikj, M. Garcia-Perez)
- 26 152185664 **Single-step synthesis of DME from syngas on CuZnAl/zeolite bifunctional catalysts: The influence of zeolite type**
Roger Ruan, University of Minnesota, Saint Paul, MN (Q. Xie, P. Chen, S. Liu, P. Peng, Y. Chen, Y. Liu, Y. Wan, X. Lin, R. Ruan)
- 27 152187071 **Sustainability of Utility Scale Syngas Cleaning Processes Using Life Cycle Assessment of Biochar Versus Metal Catalysts**
Robert S. Frazier, Oklahoma State University, Stillwater, OK (R.S. Frazier, A. Kumar, E. Jin)
- 28 152171091 **Effects of Phospholipids and Free Fatty Acids in Transesterification of Plant Oils in Sub-/Super-critical Methanol**
Zheting Bi, University of Idaho, Moscow, ID (Z. Bi, B. He)
- 29 152188614 **Development of a Supported Ni Catalyst for Selective Production of 1,2-Propanediol and Ethanol from Glycerol Hydrogenolysis**
Zheting Bi, University of Idaho, Moscow, ID (R.N. Menchavez, Z. Bi, B. He)
- 30 152181961 **Utilizing pretreatment and fungal incubation to enhance nutritional value of canola meal**
Jason R. Croat, South Dakota State University, Brookings, SD (J.R. Croat, M. Berhow, L. Iten, B. Karki, K. Muthukumarappan, W. Gibbons)
- 31 152191264 **Phosphorus liberation in Red Kidney beans (*Phaseolus vulgaris* L) Via Enzymatic hydrolysis**
Lamin S. Kassama, Alabama A&M University, Normal, AL (O. Tasie, L.S. Kassama)
- 32 152190974 **Effects of germination and fermentation treatments on finger millet and amaranth grains**
Sara Najdi Hejazi, McGill University, Longueuil, Canada (S. Najdi Hejazi, V. Orsat)
- 33 152190703 **Production of High-Protein Oilseeds Meal with Reduced Level of Anti-nutritional Factors by Using Ultrasound Pretreatment and Microbial Fermentation Process**
Bishnu Karki, South Dakota State University, Brookings, SD (B. Karki, K. Muthukumarappan, W. Gibbons)
- 34 152184755 **Development of a Dryer for Processed Locust Bean Condiments**
Joshua O. Olaoye, University of Ilorin, Ilorin, Ilorin, Nigeria (J.O. Olaoye)
- 35 152178906 **Determining Crucial Parameters to Maximize Biodiesel Yield of In-situ Transesterification Process with Acetone Co-solvent**
Nattapong Tuntitiwattananap, Chulalongkorn University, Bangkok, Thailand (N. Tuntitiwattananap, D. Wiesenborn, C. Tongcumpou)
- 36 152189497 **Exploration of Lignocellulosic Biomass Precision Pyrolysis for Advanced Biofuel Production**
Yinbin Huang, South Dakota State University, Brookings, SD (L. Wei, S. Cheng, X. Zhao, Y. Huang, Y. Yu)
- 37 152189992 **Effects of Biochar Application to Soil on Soil Properties, Root and Shoot Biomass Production**
Eric Nystrom, Texas A&M University, Bryan, TX (E. Nystrom, C. Munster, R. Schnell, T. Provin, K. McInnes)
- 38 152190739 **The effect of apparatus, cell disruption methods and solvent types on lipid extractions of cyanobacteria *Anabaena 7120* microalgae cultivated in a Bubble-column Photobioreactor**
Kasiviswanathan Muthukumarappan, South Dakota State University, Brookings, SD (A. Jahandideh, K. Muthukumarappan)
- 39 152188801 **Evaluation of a Rotating Algal Biofilm (RAB) Cultivation System Compared to a Raceway Pond Cultivation System**
Martin Gross, Iowa State University, Ames, IA (M. Gross, K.A. Rosentrater, Z. Wen)

TUESDAY, JULY 28

40	152183770	Characterization and Microwave-Assisted Pyrolysis of Oklahoma Native Microalgae for Biofuel Production Nan Zhou, Oklahoma State University, Stillwater, OK (N. Zhou, N. Dunford)
41	152189655	Optimizing lipid accumulation condition for freshwater cultivation of microalgae <i>Desmodesmus</i> sp. in anaerobic digestion wastewater Yuguang Zhou, China Agricultural University, Beijing, China (L. Ning, Y. Zhou, A. Pang, F. Ji, R. Dong)
42	152189616	Study on Accuracy Model Development of Frame Geometrical Tolerance Measurement for Large-scale Combine Harvester Yongjun Zheng, China Agricultural University, Beijing, China (Y. Zheng, Z. Wu, D. Chen, Y. TAN, S. Wang)
43	152188461	Energy Distribution and Changeable Properties of Combine Harvester in Rice Harvesting Yaoming Li, Key Laboratory of Modern Agriculture Equipment and Technology, Ministry of Education, Jiangsu University, Zhenjiang, China (Z. Tang, Y. Zhou, Y. Li)
44	152189924	Biocoal from Wet Undervalued Biomass: A Comparison between Liquid and Vapor Hydrothermal Carbonization (HTC) Processes Jamie Minaret, University of Guelph, Guelph, Canada (J. Minaret, A. Dutta)
45	152153281	The Influence of Glucose and Arabinose in Xylose Medium on Butanol Fermentation by <i>Clostridium Saccharoperbutylacetonicum</i> Quan Zhou, North Carolina State University, Raleigh, NC (Q. Zhou, W. Yuan)
46	152190803	Extrusion Processing Of Apple Pomace For Biotechnological Applications Bishnu Karki, South Dakota State University, Brookings, SD (B. Karki, K. Muthukumarappan, S. Aso, W. Gibbons)
47	152188567	High cell density cultivation of mixotrophic microalgae with pyrolytic acetate Xuefei Zhao, Agricultural and Biosystems Engineering, ISU, Ames, IA (X. Zhao, Z. WEN)
48	152188640	Sulfonic Solid Acid Catalysts Pretreatment of Switchgrass for Fermentable Sugar Production Yane O. Ansanay, North Carolina State University, Raleigh, NC (Y.O. Ansanay, P. Kolar, R.R. Sharma-Shivappa, J.J. Cheng, S. Park, C. Arellano)
49	152188577	Profile benchmark corn producers from the region of Alto Paranaíba - MG Jadir N. da Silva, Universidade Federal de Viçosa, Viçosa, Brazil (J.N. da Silva, J.B. Ferreira, S.F. Soria Galvarro)
50	152190245	A pore-scale network model for modelling airflow through grain bulks Rong Yue, University of Manitoba, Winnipeg, Canada (R. Yue, G. Saini, Q. Zhang)
51	152189861	Life cycle assessment on a large scale algae CO2 mitigation system for a coal-fired power plant Czarena Crofcheck, University of Kentucky, Lexington, KY (C. Crofcheck, A. Shea, M. Crocker)
52	152188618	Energy analysis and break-even distance for transportation for biofuels in comparison to fossil fuels Jaya Shankar Tumuluru, Idaho National Laboratory, Idaho falls, ID (J. Tumuluru, Cannayen, D. Archer)
53	152189155	Techno-Economic Analysis of Fast Pyrolysis of Lignin in waste stream from Cellulosic Biorefineries Nawa Raj Baral, The Ohio State University, Wooster, OH, United States (N. Baral, A. Shah)
54	152190234	Economic analysis comparing Microbial Desalination Cell and Reverse Osmosis technologies Natasha R. Faze, The Ohio State University, Columbus, OH (N.R. Faze, A.D. Christy)
55	152188621	A Consequential Life Cycle Assessment of Advanced Biofuel Production in Hawaii Allexander M. McDaniel, Oregon State University, Harrisburg, OR (A.M. McDaniel, G. Murthy)

56	152189963	Optimizing enzyme immobilization and biocatalytic activity of a micro-structured biofuel-cell for electricity generation Wenqiao Yuan, North Carolina State University, Raleigh, NC (X. Yang, W. Yuan, Y. Yin)
57	152189239	Model Study on extraction of both fermentable sugars and no-structural carbohydrate from sweet sorghum through diffusion process Nana Baah Appiah-Nkansah, Kansas State University, Manhattan, KS (N. Appiah-Nkansah, K. Zhang, D. Wang, B. Rooney)
58	152189552	Multiple-Stage Cultivation to Enhance <i>Motierella</i> isabellina Lipid Production from Lignocellulosic Materials Yingkui Zhong, Michigan State University, East Lansing, MI (Y. Zhong, Y. Liu)

Tuesday, July 28 - 2:30PM-5:15PM

SESSION 231

SPECTROSCOPIC SENSING -

Sponsored by ITSC-330

Moderator: Colm O'Donnell Univ College
Dublin, Belfield, Ireland

LOCATION: LA Galleries 3- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152181716	Anthocyanin determination in different corn hybrids using near infrared spectroscopy John Juvik, University of Illinois, Urbana-Champaign, Champaign, IL (A.A. Mangalvedhe, M. Danao, M. Paulsmeyer, K. Rausch, V. Singh, J. Juvik)
2:50PM	152181312	Spectral band selection to design a low cost sensor for citrus black spot disease detection Alireza Pourreza, Department of Agricultural and Biological Engineering, University of Florida, Gainesville, FL (A. Pourreza, W. Lee, h. pourreza, R. Combs)
3:05PM	152189978	Non-destructive prediction of sugar content, pH and polyphenol content of apples using VIS and NIR reflectance spectroscopy Ruplal Choudhary, Southern Illinois University, Carbondale, IL (Y. Nanyam, R. Choudhary, A. Umagiliyage, S. Gopaluni, L. Gupta)
3:20PM	152190895	Visible-near infrared spectroscopy for bitter pit detection in apples Sanaz Jarolmasjed, Washington state university, Pullman, WA (S. Jarolmasjed, C. Zúñiga Espinoza, L.R. Khot, S. Sankaran)
3:35PM	152191056	Calcium evaluation in healthy and bitter pit apples using Fourier Transform Infrared (FTIR) spectrometric techniques. Carlos Zúñiga, Washington State University, Pullman, WA (C. Zúñiga, S. Jarolmasjed, L.R. Khot, S. Sankaran)
3:50PM		Break
4:15PM	152183801	Determination of SSC in pear using near-infrared hyperspectral imaging combining MC-UVE and SPA Jiangbo Li, Beijing Research Center of Intelligent Equipment for Agriculture, Beijing, China (J. Li)
4:30PM	152189647	Detection of Acetamidiprid in Fruits by Surface Enhanced Raman Spectroscopy Chen Zhai, China Agricultural University, Beijing, China (C. Zhai, Y. Li, Y. Peng, T. Xu, S. Dhakal)
4:45PM	152183585	Classification of the Varieties of Walnut Powder by Laser-induced Breakdown Spectroscopy and Chemometrics Jiyu Peng, College of Biosystems Engineering and Food Science, Hangzhou, China (J. Peng, F. Liu, C. Zhang, K. Yu, Y. He, L. Feng, H. Fang)
5:00PM	152162742	Measurement of protein in whey permeate using an inline fluorescence sensor Fred Payne, University of Kentucky, Lexington, KY (F. Payne)

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Tuesday, July 28 - 2:30PM-5:00PM

SESSION 232

ADVANCED COMPUTATIONAL APPROACHES FOR SOLVING AGRICULTURAL AND BIOLOGICAL ENGINEERING PROBLEMS - PART 2

- Sponsored by ITSC-210

Moderator: Kelly Thorp, USDA-ARS, Maricopa, AZ

LOCATION: LA Galleries 4- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152188606	A new hybrid genetic algorithm for optimizing the single and multivariate objective functions Jaya shankar Tumuluru, Idaho National Laboratory, Idaho falls, ID (J. Tumuluru, R. McCulloch)
2:50PM	152188987	Applying Laser Doppler Vibrometer to detecting the elastic properties of watermelon Zongmei Gao, Zhejiang University, Hangzhou, China (Z. Gao, D. Cui)
3:05PM	152188033	Application of neural network based PID method for temperature control of aquaculture greenhouse Zhenwu Wang, Zhejiang University, Hangzhou, China (H. Yu, R. Zheng, Z. Wang, W. Bu)
3:20M		Break
3:30PM	152189408	A Low-Cost, Efficient Strawberry Yield Monitoring System Farangis Khosro Anjom, UC Davis, Davis, CA (F. Khosro Anjom, R.S. Rehal, S.G. Vougioukas)
3:45PM	152183158	Simulation Analysis and Design of Flight in a three-zone Rotary Dryers of Organic Fertilizer Based on EDEM Guanghai Wang, China Agricultural University, Beijing, China (x. zhang, G. Wang, D. Wang, H. Shen, T. Li)
4:00PM	152212225	Feasibility Study of Employing New Approach to Estimate Nutritional Indices in Alfalfa Crop Mohammadmehdi Maharlooeei, Shahid Bahonar University of Kerman, Kerman, Iran (M. Maharlooeei, S. Sivara-jan, S.G. Bajwa, M. Berti, J. Nowatzki)

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 233

INNOVATIONS IN PRECISION AGRICULTURE

- Sponsored by MS-54

Moderator: Joe Luck, University of Nebraska-Lincoln, Lincoln, NE

LOCATION: LA Galleries 5- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152189372	Validation of Model Predicting Solid Fertilizer Deposition from a Fixed Wing Aircraft Sue E. Chok, Massey University, Palmerston North, New Zealand (S.E. Chok, M.C. Grafton, I.J. Yule)
2:50PM	152186850	Evaluation Approach for Assessing Performance of PWM Spray Application Systems Brittany A. Schroeder, The Ohio State University, Columbus, OH (B.A. Schroeder, A. Klopfenstein, D. Wolters, S.A. Shearer)
3:05PM	152187820	Application testing of an optical individual sprayer nozzle agent concentration sensor Joseph Dvorak, University of Kentucky, Lexington, KY (J. Dvorak)
3:20PM		Break
3:30PM	152189703	X-ray Technique for Simultaneous Mass Flow Measurements and Foreign Body Detection in a Self-Propelled Forage Chopper John K. Schueller, University of Florida, Gainesville, FL (K. Wild, T. Schmiedel, S. Lautenschlager, M. Stein, J.K. Schueller)

3:45PM	152190150	Hulling and Coating of Extra-large Confection Sunflower Seed for Precision Planting Harjot Sidhu, North Dakota State University, Fargo, ND (H. Sidhu, D. Haagenson, S.G. Bajwa, D. Wiesenborn)
4:00PM	152179904	Monitoring of a forage harvester using multiple sensor fusion Ahmad Mohsenimanesh, University of Ottawa, Ottawa, Canada (A. Mohsenimanesh, P. Nieuwenhof, D. Nec-sulescu, C. Lague)
4:15PM	152190657	Automated Detection for Assessment of Corn Plant Emergence Dustin Wolters, The Ohio State University, Columbus, OH (D. Wolters, S.A. Shearer, A. Klopfenstein, B.A. Schroeder)

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 234

MACHINERY SYSTEMS FOR CROP PRODUCTION

- Sponsored by MS-42,

MS-43, MS-45, MS-54

Moderator: Mark Hanna, Iowa State University, Ames, IA

LOCATION: Mardi Gras B- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152185015	Optimal Cotton Acreage Allocation for Machinery Complements under Weather Uncertainty Terry Griffin, Kansas State University, Manhattan, KS (T. Griffin, A. Sharda, T.B. Mark, G. Ibendahl, M. Buscher-mohle, E. Barnes)
2:50PM	152181293	Agronomy Based Crop Production System Niels Dybro, University of Illinois, Urbana - Champaign, Urbana, IL (N. Dybro)
3:05PM	152189846	Energy Management at University Research Farms Mark Hanna, Iowa State University, Ames, IA (M. Hanna, J. Harmon, D. Schweitzer)
3:20PM		Break
3:30PM	152189764	Placement methods for liquid nitrogen fertilizer application in ratoon cane Marcelo J. Silva, FEAGRI-UNICAMP, Campinas, Brazil (M.J. Silva, O. kolln, H. Coutinho Junqueira Franco, P. Graziano Magalhães)
3:45PM	152188971	The design and parameter optimization of automatic positioning mechanism for automatic injection system of fry vaccine Renghao Liang, Zhejiang University, Hangzhou, China (R. Liang)

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 235

POST HARVESTING ENGINEERING FOR SPECIALTY CROPS

- Sponsored by

MS-48, PRS-702

Moderators: Manoj Karkee, Washington State University, Prosser, WA and Stavros Vougioukas, University of California, Davis,

LOCATION: Mardi Gras A- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152176663	Post-harvest Losses due to Harvesting Operations in Developing Countries: A Review Marvin R. Paulsen, University of Illinois, Urbana, IL (M.R. Paulsen, P.K. Kalita, K. Rausch)
2:50PM	152188433	Grading Peanuts by Thermal Imaging Ze'ev Schmilovitch, Agricultural Research Organization, Bet Dagan, Israel (Z. Schmilovitch, A. Levi, T. Ignat, A. Hoffman, H. Egozi, R. Regev, Y. Kashti, F. Geoola)

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3:05PM	152190406	Low-Cost Hazelnut Size-Sorting Equipment David R. Bohnhoff, University of Wisconsin-Madison, Madison, WI (D.R. Bohnhoff)
3:20PM		Break
3:30PM	152190500	Design Modification and Performance Evaluation of a Cassava Pelleting Machine Akindele F. Alonge, University of Uyo, Uyo, Nigeria (A.F. Alonge)
3:45PM	152189309	Optimal needle temperature and punching speed for a micro-drill polymeric film machine José f. Marín, Universidad Autónoma Chapingo, Texcoco, Mexico (J.f. Marín, F. Hahn, S. Valle)
4:00PM	152190216	Analysis of Cotton Bale Contamination Contributive Sources and Potential Removal Method Victoria M. Garibay, Texas A&M University, Bryan, TX (V.M. Garibay, R. McGee, C.B. Parnell)

Tuesday, July 28 - 2:30PM-3:45PM

SESSION 236

ADVANCES IN PESTICIDE

APPLICATION- PART 2 - Sponsored by MS-26, MS-54

Moderator: Joe Luck, University of Nebraska-Lincoln, Lincoln, NE

LOCATION: LA Galleries 6- 2nd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152173193	Effective controls of insects and diseases with a laser-guided precision sprayer Heping Zhu, USDA/ARS ATRU, Wooster, OH (H. Zhu)
2:50PM	152173162	Efficacious insect and disease control with reduced active ingredient and carrier rate Heping Zhu, USDA/ARS ATRU, Wooster, OH (H. Zhu)
3:05PM	152188455	Analyzing Dynamic Spray Fan Pattern (SFP) Coverage with High Speed Imaging and Full Systems Audit of a Pulse Width Modulated Sprayer Daniel Flippo, Kansas State University, Manhattan, KS (D. Flippo)
3:20PM	152187211	Hydraulic Nozzle Testing in Agricultural Applications Shane Forney, University of Nebraska-Lincoln, Lincoln, NE (S. Forney)
3:35PM		Break

Tuesday, July 28 - 3:45PM-4:45PM

SESSION 237

AUTOMATION SYSTEMS FOR AGRICULTURAL FIELD MACHINERY -

Sponsored by MS-58, MS-54, ITSC-320, ITSC-310, MS-43

Moderator: Joe Luck, University of Nebraska-Lincoln, Lincoln, NE

LOCATION: LA Galleries 6- 2nd Floor

Time	Paper #	Title/Authors
3:45PM	152150720	A method for testing automatic spray boom height control systems Andreas Herbst, Julius-Kühn-Institut, Braunschweig, Germany (A. Herbst, H. Osteroth, W. Fleer, H. Stendel)
4:00PM	152188589	RAfIE - The 30HP Autonomous Tractor Joseph Rounsaville, University of Kentucky, Lexington, KY (J. Rounsaville, J. Dvorak)

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 238

ANIMAL MANURE AND MORTALITY MANAGEMENT SYSTEMS - Sponsored

by NRES-27

Moderator: Teng Lim, University of Missouri, Columbia, MO

LOCATION: Mardi Gras C- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152188698	PEDv Survivability in Manure-Amended Soil Amy M. Schmidt, University of Nebraska - Lincoln, Lincoln, NE (A.M. Schmidt, D. Miller, J.D. Loy, C. Kelling, J. Galeota, N. Mueller)
2:50PM	152189196	Modeling Airborne Pathogen Transport During the Use of Manure Irrigation Practice in Wisconsin Yifan Liang, University of Wisconsin-Madison, Madison, WI (Y. Liang, R. Larson, C.Y. Choi)
3:05PM	152184915	Environmental fate of manure-borne contaminants as affected by soil condition before injection M G Mostofa Amin, Pennsylvania State University, University Park, PA, United States (M. Amin, C.Ø. Pedersen, A. Forslund, M. Laegdsmand)
3:20PM	152188677	Soil Arthropod Populations as an Indicator of Soil Health Following Swine Manure Application Nicole R. Schuster, University of Nebraska - Lincoln, Lincoln, NE (N.R. Schuster, A.M. Schmidt, J. Peterson)
3:35PM		Break
3:45PM	152189185	Persistence of Salmonella During Dairy Manure Compost at Different Sampling Events and Thermal Conditions Pramod Pandey, University of California- Davis, Davis, CA (S. Biswas, P. Pandey)
4:00PM	152188690	Evaluation of Mortality Composting Parameters Necessary for Inactivation of PEDv Amy M. Schmidt, University of Nebraska - Lincoln, Lincoln, NE (A.M. Schmidt, J.D. Loy, C. Kelling, J. Galeota)
4:15PM	152181632	Binary Power Generation Using Composting Fermentation Heat as Heat Source Yoichiro Kojima, National Agriculture and Food Research Organization, Japan, Nasushiobara, Japan (Y. Kojima, Y. Iitaka, Y. Nishi, M. Nakanishi, K. Aamaha, Y. Abe, S. Endo)
4:30PM	152189289	Characterizing the fate and transport of Chemicals of Emerging Concerns (CECs) from integrated bioenergy and manure management system Young Hwan Shin, University of Illinois at Urbana - Champaign, Savoy, IL (Y. Shin, L. Schideman)

Tuesday, July 28 - 2:30PM-5:15PM

SESSION 239

ADVANCES IN VARIABLE RATE AND SPRINKLER IRRIGATION - Sponsored by

NRES

Moderator: Freddie Lamm, Northwest Res Ext Center, Colby, KS

LOCATION: Mardi Gras D- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152185572	On-Farm Evaluation of Variable Rate Irrigation in Soybean Ruixiu Sui, USDA-ARS, Stoneville, MS (R. Sui)
2:50PM	152188656	Using Remotely Sensed Vegetative Indices for Managing Variable-Rate Irrigation Kenneth Stone, USDA-ARS, Florence, SC (K. Stone, P. Bauer)

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3:05PM	152189522	A site-specific and dynamic modeling system for zoning and optimizing variable rate irrigation in cotton Amir Haghverdi, University of Tennessee, Knoxville, TN (A. Haghverdi, B. Leib, M. Buschermohle, P. Ayers)
3:20PM	152190152	Managing Cotton Irrigation on Variable Water Holding Capacity Soil in Humid Regions Brian Leib, University of Tennessee, Knoxville, TN (B. Leib, H.A. Duncan, D. Verbree)
3:35PM		Break
3:45PM	152190093	Effect of field and center pivot operating characteristics on Energy use Dilshad Brar, University of Nebraska-Lincoln, Lincoln, NE (D. Brar, W. Kranz)
4:00PM	152168287	Variation of Sprinkler Discharge Efficiency under a Linear Move Irrigation System Mohammad-Zaman Amini, WSU, Prosser, WA (H. Sadeghi, T. Peters, M. Amini)
4:15PM	152184794	Furrow Irrigation Sediment Loss Prediction Model Bradley A. King, USDA, Kimberly, ID (B.A. King, D. Bjorneberg)
4:30PM	152188723	Reduced Runoff from Center Pivot and Linear Move irrigation Systems with Off-Set Booms (Boombucks) Mohammad Z. Amini, Washington State University, Prosser, WA (M.Z. Amini, T. Peters)
4:45PM	152179081	Evaluating water application uniformity of center pivot irrigation systems in typical regions of China Yongchong Li, College of Water Resources and Civil Engineering, China Agricultural University, Beijing, China (Y. Li, H. Yan, D. Cai, X. Li, T. Gu)

Tuesday, July 28 - 2:30PM-6:30PM

SESSION 240

FLOODPLAINS AND WETLAND FUNCTION IN LAND USE AND MANAGEMENT DECISIONS -

Sponsored by NRES-26

Moderators: Philip Gassman, Iowa State University, Ames, IA, and Richard Weber, USDA-NRCS, Fort Worth, TX

LOCATION: Mardi Gras E- 3rd Floor

Wetlands and coastal systems are important transitional areas between terrestrial and aquatic environments. These systems serve valuable ecological and human services including water storage, carbon sequestration, nutrient management, storm protection, habitat, and nursery grounds. The transitional status of wetland and coastal systems makes them particularly vulnerable to non-stationary conditions and they are increasingly being threatened by human development, climate change, and sea-level rise.

Time	Paper #	Title/Authors
2:30PM	152329240	Learning from Failure is Critical to Improving Wetland and Floodplain Restoration Efforts Jeanne Christie, Association of State Wetland Managers, Windham, ME (J. Christie)
3:15PM	152340569	Farms, Furrows, and Floodplains: Conservation Challenges and Opportunities for Floodplain/Riparian Areas in Agricultural Landscapes Craig Goodwin, USDA- Natural Resources Conservation Service, Washington, (C. Goodwin)
4:00PM	152329224	An Agricultural Conservation Planning Framework that Facilitates Watershed Planning in Agricultural Landscapes using GIS James C. Ascough, USDA-ARS, Ames, IA (M.D. Tomer, J.C. Ascough, S.A. Porter, D.E. James)

4:45PM	152328889	Soil Landscape Systems: A scalar framework for describing, modeling, and managing soil processes and properties in fluvial systems. Philip J. Schoeneberger, USDA-NRCS-National Soil Survey Center, Lincoln, NE (P.J. Schoeneberger, D. Wysocki, Z. Libohova, B. Lee)
5:30PM	152328865	Modeling the Effects of Tile Drain Placement on the Hydrologic Function of Farmed Prairie Wetlands Brett Werner, Centre College, Danville, KY (B. Werner, J. Tracy, R.A. Voldseth, W.C. Johnson, G. Guntenspergen)

Tuesday, July 28 - 2:30PM-5:15PM

SESSION 241

ADVANCES IN DRAINAGE AND DRAINAGE WATER QUALITY -

Sponsored by NRES-23

Moderator: Aaron Mittelstet, Oklahoma State University, Stillwater, OK

LOCATION: Mardi Gras F- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152189307	Surface and subsurface P transport under different agricultural crop production management practices Kevin W. King, USDA-ARS, Columbus, OH (K.W. King, M.R. Williams, W. Ford, N. Fausey)
2:50PM	152181007	Effect of tillage practices on preferential flow and phosphorus transport to tile drains Mark R. Williams, USDA-ARS, Columbus, OH (M.R. Williams, K.W. King, W. Ford, A. Buda, C. Kennedy)
3:05PM	152181197	Phosphorus loss in tile drainage as affected by compost additions and water table management system Chin Tan, Agriculture & Agri-Food Canada, Harrow, Canada (T. Zhang, C. Tan, Z. Zheng)
3:20PM	152189353	Effects of nitrogen application timing, tillage systems and winter cereal rye cover crop on corn and soybean yields and nitrate-nitrogen concentrations from a tile-drained field in Iowa Ainis Lagzdins, Iowa State University, Ames, IA (A. Lagzdins, M. Helmers, C. Pederson, L.R. Schott)
3:35PM	152189908	Effects of Drainage Water Management on Crop Yield, Drainage Volume, Nitrate Loss, and Planting Date in Southeastern Iowa Linda R. Schott, Iowa State University, Ames, IA (L.R. Schott, C. Pederson, M. Helmers)
3:50PM		Break
4:00PM	152187422	Evaluation of agricultural emerging contaminants (AECs) in the South Fork watershed of the Iowa River using POCIS Maurice Washington, Iowa State University, Ames, IA (M. Washington, M. Soupir, T. Moorman)
4:15PM	152190099	Quantifying differences in soil moisture due to drainage water management Caroline Hughes, Purdue University, Lafayette, IN (C. Hughes, L.C. Bowling, J. Strock, J. Frankenberger, L. Zhang, L. Pease, L. Geiger, N. Fausey, M. Helmers, E. Kladvik)
4:30PM	152190286	Effect of Drainage Water Management on Water Table Recession Rate Samaneh Saadat, Purdue University, West Lafayette, IN (S. Saadat, K. Brooks, J. Frankenberger, L.C. Bowling)
4:45PM	152190854	Short Term Effects of Variable-Input Cropping Systems on Soil Available Water and Crops Water Use Axel Garcia y Garcia, University of Minnesota, Lamber-ton, MN (A. Garcia y Garcia, J. Strock)
5:00PM	152182345	Effects of subsurface drainage and calcium-based surface amendments on draft requirements for a sodic soil Dean D. Steele, North Dakota State University, Fargo, ND (D.D. Steele, A.W. Wamono, T. DeSutter, Z. Lin, X. Jia)

TUESDAY, JULY 28

Tuesday, July 28 - 2:30PM-5:15PM

SESSION 242

MODELING OF WATER QUALITY AND HYDROLOGY - PART 2 -

Sponsored by NRES-21

Moderator: Xinhua Jia, North Dakota State Univ

LOCATION: Bonaparte- 4th Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152166009	BMP Tool: A Novel Tool for Targeted Placement of Best Management Practices in Watersheds Gurdeep Singh, University of Arkansas, Fayetteville, AR (G. Singh, D. Saraswat)
2:50PM	152184558	Comparison of the new and old tile drainage routines in the Soil and Water Assessment Tool (SWAT) Tian Guo, Purdue University, West Lafayette, IN (T. Guo, B. Engel)
3:05PM	152186818	Comparative performance of two SWAT model set ups on assessing impact of biofuel crops production on water quality Dharmendra Saraswat, University of Arkansas Cooperative Extension Service, Little Rock, AR (E. Kumar, D. Saraswat)
3:20PM	152189799	Development of a landscape unit delineation framework for SWAT Hendrik Rathjens, Purdue University, West Lafayette, IN (H. Rathjens, K. Bieger, I. Chaubey, J. Arnold, R. Srinivasan, D.D. Bosch, P. Allen, M. Volk)
3:35PM	152189807	Application of the new modular SWAT code to three watersheds in the United States Katrin Bieger, Texas A&M AgriLife, Temple, TX (K. Bieger, H. Rathjens, P. Allen, D.D. Bosch, I. Chaubey, R. Srinivasan, M. Volk, J. Arnold)
3:50PM		Break
4:00PM	152190942	Evaluating the impact of implemented BMPs using SWAT model in Richard Chambers Watershed of Texas Prasad Daggupati, Texas A & M University, College Station, TX (P. Daggupati, R. Srinivasan)
4:15PM	152190946	Use of a fine-scale SWAT model to support reverse auction evaluations in the Tiffin River watershed Chelsie Boles, LimnoTech, Ann Arbor, MI (C. Boles, T. Redder, D. Schlea)
4:30PM	152190992	The Pennsylvania Phosphorus Index and TopoSWAT: A comparison of transport components and approaches Jennifer Weld, Penn State University, University Park, PA (J. Weld, A.S. Collick, T.L. Veith, D. Beegle, P. Kleinman, Z. Easton)
4:45PM	152191019	Impact of DEM and soils on topographic index, as used in TopoSWAT Amy S. Collick, USDA-ARS, University Park, PA (A.S. Collick, T.L. Veith, J. Weld, J. Lamba, D.R. Fuka, D. Beegle, P. Kleinman, Z. Easton)



Tuesday, July 28 - 2:30PM-5:15PM

SESSION 243

ENGINEERING FOR URBAN, WATER AND ENVIRONMENTAL APPLICATION - PART 2 -

Sponsored by NRES-261, PAFS-303

Moderators: Stacia Davis, Louisiana State University AgCenter, Bossier City, LA and Steven Hall, LSU, Baton Rouge, LA

LOCATION: Regent- 4th Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152188905	Experimental and Numerical Investigations on the Breakup Characteristics of Low-pressure Jet with Different Nozzle Parameters Yue Jiang, Jiangsu university, Jiangsu province, China (Y. Jiang, H. Li, C. Chen, Q. Xiang)
2:50PM	152189148	Relationship of Plant Density and Plant Height with Wild Blueberry Fruit Yield Hassan S. Chattha, Dalhousie University, Truro, Canada (H.S. Chattha, Q. Zaman, A.A. Farooque)
3:05PM	152189324	Manipulating spectrum compositions of red LEDs by using optical filters to investigate the effect on lettuce growth Bo-Sen Wu, McGill University, Ste-Anne-de-Bellevue, Canada (B. Wu, S. Reddy, M. Naznin, M.G. Lefsrud)
3:20PM	152189595	The Coupling Impact of Biochar & Fertilizer on Sandy Loam Physicochemical Properties and Tomato Growth Traits Li Changjian, Water Conservancy and Civil Engineering College, Huhhot, China (L. Changjian, Z. Qu)

Tuesday, July 28 - 2:30PM-5:15PM

SESSION 244

SOIL EROSION RESEARCH -

Sponsored by NRES-223

Moderator: Anita Thompson, Univ of Wisconsin, Madison, WI

LOCATION: Mardi Gras H- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152156396	Pipeflow Experiments to Quantify Pore-Water Pressure Buildup due to Pipe Clogging Mikayla Wanger, Oklahoma State University, Stillwater, OK (M. Wanger, G. Fox, G. Wilson)
2:50PM	152181402	Impacts of Road Design on Sediment Generation William J. Elliot, USDA Forest Service, Moscow, ID (W.J. Elliot, L. Wei)
3:05PM	152181705	Longevity of Polyacrylamide for Turbidity Reduction of Simulated Stormwater Jacob Burkey, Woolpert, Charleston, SC (J. Burkey, C. Privette, C. Sawyer, J. Hayes)
3:20PM	152187175	Justifying the Use of a Nonlinear Detachment Model for Cohesive Soil Erosion Kate R. Klavon, Oklahoma State University, Stillwater, OK (K.R. Klavon, G. Fox, E. Daly, A. Khanal)
3:35PM		Break
3:45PM	152190458	Velocity and Kinetic Energy of Rain Drops by a Dynamic Rain Gage Luiz A. Lima, Universidade Federal de Lavras, Ijaci, Brazil (L.A. Lima, P. Lima, M.F. Colares)
4:00PM	152190139	Accuracy of Topographic Index Models at Prediction of Ephemeral Gullies Lawrence Sekaluvu, Kansas State University, Manhattan, KS (L. Sekaluvu, A.Y. Sheshukov, S.L. Hutchinson)

TUESDAY, JULY 28

- 4:15PM 152187472 Determining Soil Erosion with Varying Corn Stover Cover Factors**
Nicole K. Koeninger, University of Kentucky, Lexington, KY (N.K. Koeninger, M. Montross, C.T. Agouridis, A. Turner, J. Jackson)
- 4:30PM 152190767 An Assessment of the Effectiveness of Flocculants to Enhance Settling**
Richard Warner, university of Kentucky, Lexington, KY (R. Warner)

Tuesday, July 28 - 2:30PM-5:15PM

SESSION 245

ADVANCES IN WATER

RESOURCES - Sponsored by NRES-21, NRES-224, NRES-225, NRES-23, NRES-25, NRES-26

Moderator: Anna Linhoss, Mississippi State University, Starkville, MS

LOCATION: Bacchus- 4th Floor

- | Time | Paper # | Title/Authors |
|---------------|------------------|--|
| 2:30PM | | Introduction |
| 2:35PM | 152163051 | The AgroEcoSystem-Watershed (AgES-W) Model: Overview and Application to Experimental Watersheds
James C. Ascough, USDA-ARS, ASRU, Fort Collins, CO (J.C. Ascough, T.R. Green, O. David, H. Kipka, G.S. McMaster, N.P. Lighthart) |
| 2:50PM | 152188332 | Analysis of characteristics of four different Variability Incices(SVIs) and determine the best Index for Base-flow Estimation.
Jeongho Han, Kangwon National University, Chuncheon-si, Korea (the Republic of) (J. Han, D. Lee, D. Kum, G. Lee, S. Kim, Y. Park, K. Lim, Y. Jung) |
| 3:05PM | 152190162 | Early findings from artificial recharge efforts of the Mississippi River Valley Alluvial Aquifer
Michele Reba, USDA-ARS, State University, AR (M. Reba) |
| 3:20PM | 152190775 | Hydrologic modeling of five macro-scale river basins focusing on their glaciers
Nina Omani, Texas A&M University, College Station, TX (N. Omani, R. Srinivasan, P. Smith, R. Karthikeyan) |
| 3:35PM | | Break |
| 3:45PM | 152190980 | Conservation Agriculture with Drip Irrigation by vegetable farmers in Cambodia
Don Immanuel A. Edralin, North Carolina A & T State University, Greensboro, NC (D.A. Edralin, M.R. Reyes) |
| 4:00PM | 152191030 | Remote sensing mapping of tillage practices over South Central Nebraska, U.S.A. using Landsat imagery
Vivek Sharma, UNL, Lincoln, NE (V. Sharma, S. Irmak, J. Gilley, G. Meyer, S. Knezevic, D. Marx) |
| 4:15PM | 152162901 | Characteristics of overland flow generation on two steep hillslopes in the Western Himalayas, India
Sumit Sen, Indian Institute of Technology Roorkee, Roorkee, India (V. Jirwan, S. Sen) |
| 4:30PM | 152189265 | Agricultural Management Systems to Improve Water Quality into Lake Simcoe
Genevieve Grenon, McGill University, Ste-Anne-de-Bellevue, Canada (G. Grenon, N. Gaj, C. Madramootoo) |

Tuesday, July 28 - 9:30AM-11:30AM

SESSION 247

MEASUREMENT AND MITIGATION OF AIR POLLUTANTS FROM LIVESTOCK AND POULTRY AREA SOURCES

- Sponsored by PAFS-305

Moderator: Teng Lim, University of Missouri, Columbia, MO

LOCATION: Balcony I- 4th Floor

- | Time | Paper # | Title/Authors |
|----------------|------------------|---|
| 9:30AM | | Introduction |
| 9:35AM | 152116861 | Greenhouse gas emissions from beef cattle feedlot pen surfaces in Texas
Kenneth D. Casey, Texas A&M AgriLife Research, Amarillo, TX (K.D. Casey, H.M. Waldrup, R.W. Todd, N.A. Cole) |
| 9:50AM | 152171852 | Field Measurement of Carbon Dioxide, Methane and Nitrous oxide Emissions from Manure Stockpile and Open Exercise Yard of a Typical Dairy Farm in China by Chamber Technique
Luyu Ding, China Agricultural University, Beijing, China (L. Ding, Q. Lu, L. Xie, J. Liu, L. Zhang, W. Zheng, W. Cao, Z. Shi, B. Li, C. Wang, G. Zhang, S. Ren) |
| 10:05AM | 152146893 | Use of zilpaterol hydrochloride to reduce odor and gas production from the feedlot surface when beef cattle are fed diets with or without ethanol byproducts
Mindy Spiehs, USDAARS, Clay Center, NE (M. Spiehs, K. Hales, B. Woodbury) |
| 10:20AM | 152190036 | Response of Secondary Inorganic PM2.5 to the Spatial Variations of NH3 and SOx/NOx Sources in North Carolina
Lingjuan W. Wang-Li, North Carolina State University, Raleigh, NC (B. Cheng, Y. Zhao, L.W. Wang-Li) |
| 10:35AM | | Break |
| 10:45AM | 152190806 | CELis (Compact Eye-safe Lidar System), a single wavelength lidar system for monitoring PM concentration and plume movement
Kori Moore, Space Dynamics Laboratory, North Logan, UT (K. Moore, A. Bird, M. Wojcik, R. Lemon, A. Wiebe, J. Hatfield) |
| 11:00AM | 152186218 | Enhanced Biological Treatment for Mitigating Ammonia and Odor Emissions from Dairy Wastewaters
George Mathew Neerackal, Washington State University, Pullman, WA (G. Neerackal, H. Joo, X. Wang, P.M. Ndegwa) |
| 11:15AM | 152189316 | Adsorption of p-cresol on NaOH-activated carbon prepared from coconut shell
Yiyang Zhu, North Carolina State University, Raleigh, NC (Y. Zhu, P. Kolar) |

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 248

INNOVATIVE SYSTEM AND RESOURCE SAVINGS STRATEGIES IN CONTROLLED ENVIRONMENTS

- Sponsored by PAFS-303

Moderator: Shuhai Li, Johnson City, TN

LOCATION: Balcony J- 4th Floor

- | Time | Paper # | Title/Authors |
|---------------|------------------|--|
| 2:30PM | | Introduction |
| 2:35PM | 152188848 | Natural Ventilation Augmented Cooling (NVAC) Greenhouse: A Greenhouse Design for Tropical Climates in the Caribbean.
Lucas McCartney, McGill University, St-Gabriel-de-Valcartier, Canada (L. McCartney, M.G. Lefsrud) |

TUESDAY, JULY 28

2:50PM	152189781	Non-Destructive High Voltage Treatment to Combat Plant Diseases Ali Mirzakhani Nafchi, Institute of Agricultural Innovation and Engineering Research , Lake Alfred , FL (A. Mirzakhani Nafchi)
3:05PM	152152003	Impact Based Odor Control System Brett C. Ramirez, Iowa State University, Ames, IA (B.C. Ramirez, S.J. Hoff)
3:20PM	152190213	Benefits of Airflow on Unrefrigerated Fresh Produce In Retail Settings Jonathan W. Olsen, Big Ass Fans, Lexington, KY (J.W. Olsen, T. Lesser, D.M. Holcroft)
3:35PM	152186296	Energy Saving Applications of Ground-Source Heat Pumps for Agricultural Buildings Matthew K. Harper, University of Wisconsin-Madison, Madison, WI (M.K. Harper, C.Y. Choi)

Tuesday, July 28 - 2:30PM-5:15PM

SESSION 249

ANIMAL HOUSING & ENVIRONMENTAL CONTROL - Sponsored by PAFS-302

Moderator: Tim Sheperd, Iowa State University, Ames, IA

LOCATION: Balcony K- 4th Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152177429	Development and Calibration of a Black Globe Temperature Sensor for Livestock Housing Brett C. Ramirez, Iowa State University, Ames, IA (B.C. Ramirez, Y. Gao, S.J. Hoff)
2:50PM	152168631	Conjugate Heat Transfer in Composite Thermal Envelopes: A Comparison of Numerical and Experimental Results. Andrew J. Holstein, University of Wisconsin- Madison, Madison, WI (A.J. Holstein, D.R. Bohnhoff, C.Y. Choi)
3:05PM	152184981	Effects of air velocity on heat loss of an artificial pig Hao Li, Department of Engineering, Aarhus University, Tjele, Denmark (H. Li, L. Rong, G. Zhang)
3:20PM	152190994	Heat Flux and Condensation Rate in Conductive Cooling Systems for Thermally Stressed Dairy Cattle Kristen Perano, Cornell University, Ithaca, NY (K. Perano, T. Shelford, K. Gebremedhin)
3:35PM	152183444	Effects of Conductive Cooling on Dairy Cows Lying Patterns and Core Body Temperature Mario Mondaca, University of Wisconsin, Madison, WI (M. Mondaca, M.K. Harper, N. Cook, C.Y. Choi)
3:50PM		Break
4:00PM	152190012	Alternative Mechanical Ventilation Strategies for Filtered-air Systems in North American Livestock Barn Richard Gates, University of Illinois at Urbana-Champaign, Savoy, ID (R. Gates, T.L. Funk)
4:15PM	152190046	Infiltration Losses in Swine Wean to Finish Buildings: Review and Quantification Harishchandra T. Jadhav, Iowa State University, Ames, IA (H.T. Jadhav, S.J. Hoff)
4:30PM	152190880	Determination of temperature requirements of group-housed sows fed with high fiber diets to reduce energy costs Alvin Alvarado, Prairie Swine Centre Inc, Saskatoon, Canada (B. Predicala, A. Alvarado, J. Brown, D. Beaulieu, L. Moreno)
4:45PM	152188853	Effect of Optimum Daily Set Point Temperatures on Mechanically-Ventilated Growing-Finishing Swine Production Shang-Jen Yang, University of Illinois, Urbana, IL (S. Yang, X. Wang, R. Gates)
5:00PM	152189998	House Environmental Control of Broiler Production in North Carolina Lingjuan W. Wang-Li, North Carolina State University, Raleigh, NC (Y. Zheng, L.W. Wang-Li, E. Oviedo, K. Zer-ing)

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 250

UPDATE ON AGRICULTURAL AIR QUALITY REGULATORY ISSUES -

Sponsored by PAFS-305

Moderator: Albert Heber, Purdue University, West Lafayette, IN

LOCATION: Balcony L- 4th Floor

Besides networking with colleagues, participants will gain a greater awareness and understanding of how regulations affect the agricultural industry and the needs for additional research, pollution abatement methods, and changes in agricultural production practices.

Time	Paper #	Title/Authors
2:30PM		Introduction Al Heber, Purdue University
2:35PM		Three Legged Stools and Air Pollution Regulation – Why It Matters to Ag? Dr. Bryan Shaw, Chairman, Texas Commission on Environmental Quality
2:50PM		Regulations and the Egg Layer Industry: Advances, Challenges and Unintended Consequences Dr. Hongwei Xin, Profession, Iowa State University
3:05PM		This is What We Need to Know before Regulating Ammonia Dr. Eileen Fabian, Professor, Pennsylvania State University
3:20PM		Livestock Nuisance Lawsuits: It's All about Odor Eldon McAfee, Attorney, Brick Gentry P.C.
3:40PM		Panel Discussion

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 251

CHALLENGES IN LIGNOCELLULOSIC CONVERSION - Sponsored by

PRS-280, ES-220

Moderator: Hasan Atiyeh, Oklahoma State University, Stillwater, OK

LOCATION: Audubon- 5th Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152188559	Moderate Electric Field Treatment Enhances Enzymatic Hydrolysis of Cellulose Below Optimal Temperatures Sudhir Sastry, Ohio State University, Columbus, OH (E.K. Durham, S. Sastry)
2:50PM	152189473	Production of Butanol from Switchgrass with and without Detoxification Hasan Atiyeh, Oklahoma State University, Stillwater, OK (K. Liu, H. Atiyeh, O. Pardo-Planas, T. Ezeji, V. Ujor, J. Overton, K. Berning, M. Wilkins, R. Tanner)
3:05PM	152149894	Epidemic model based optimal control strategy for fed-batch enzymatic hydrolysis of lignocellulosic biomass Deepak R. Keshwani, University of Nebraska-Lincoln, Lincoln, NE (C. Tai, D.R. Keshwani)
3:20PM	152190146	Is Biological Pretreatment Effectiveness Dependent on Biomass Particle Size or Biomass Bulk Density? Amanda Hickman, University of Kentucky, Lexington, KY (A. Hickman)
3:35PM	152190074	Conversion of Annual and Perennial Bioenergy Crops using Clostridium thermocellum under a Synthesis Gas Headspace Veronica Mbaneme, North Carolina State University, Wendell, NC (V. Mbaneme, M. Chinn, M. Veal, J.M. Bruno-Barcena)
3:50PM		Break

TUESDAY, JULY 28

4:00PM	152189847	The effect of potential inhibitors on butyric acid fermentation by Clostridium tyrobutyricum Yingxi Geng, North Carolina State University, Raleigh, NC (Y. Geng, W. Yuan)	4:20PM	152186530	Detection of Multiple Quality Attributes of Sugar Beet by Using Optical Absorption and Scattering Properties Leiqing Pan, Nanjing Agricultural University, Nanjing, China (L. Pan, R. Lu, K. Tu)
4:15PM	152189935	Cellulolytic Enzyme Binding on Lignin Residue in Alkali and Acid Pretreated Switchgrass during Hydrolysis Woochul Jung, North Carolina State University, Raleigh, NC (W. Jung, R.R. Sharma-Shivappa, R. Qu)	4:35PM	152184153	Detection of tenderness of green bean by using hyperspectral imaging Ye Sun, Nanjing Agricultural University, Nanjing, China (Y. Sun, L. Pan, X. Gu, K. Tu)
4:30PM	152190081	A control theoretic approach to optimize enzyme mixtures during cellulose hydrolysis Deepak Kumar, Oregon State University, Corvallis, OR (D. Kumar, G.S. Murthy)	4:50PM	152189002	Spatial-Frequency Domain Imaging System for Optical Property Measurement of Agro-products Dong Hu, Zhejiang University, Hangzhou, China (D. Hu, X. Fu, Y. Ying, X. He)
4:45PM	152191033	Valorization of solid residues from cellulosic ethanol plant to renewable chemicals Caixia Wan, University of Missouri, Columbia, MO (C. Wan, S. Liang)	5:05PM	152189254	Finite element modeling of light propagation in fruit under the illumination of a continuous-wave beam Aichen Wang, Zhejiang University, Hangzhou, MI, China (A. Wang, R. Lu, L. Xie)

Tuesday, July 28 - 2:30PM-3:45PM

SESSION 252

FOOD SAFETY THROUGH ENGINEERING - Sponsored by PRS-707

Moderator: Griffiths Atungulu, University of Arkansas, Fayetteville, AR

LOCATION: Beauregard- 5th Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM	152220963	Microwave sterilization/pasteurization technology development at WSU -bridging the gap between research and industrial implementation Juming Tang, Washington State University, Pullman, WA (J. Tang)
2:50PM	152220958	Integrating Ultrasound into High Temperature Short Time (HTST) Processing for Milk Shelf Life Extension Cindu Annand, Iowa State University, Ames, IA (C. Annand, D. Grewell, L. Benner, S. Clark)
3:05PM	152220961	Rapid Spectroscopic, Imaging, and Hyperspectral Imaging Systems for Food Safety and Security Kurt C. Lawrence, USDA, ARS, Athens, GA (K.C. Lawrence, B. Park, S. Yoon, W.R. Windham)
3:20PM	152220968	Engineering of Fresh Produce Safety Sudhir Sastry, Ohio State University, Columbus, OH (M. Shynkaryck, H. Mohammed, T. Pyatkovsky, A.E. Yousef, S. Sastry)
3:35PM		Break

Tuesday, July 28 - 3:45PM-4:30PM

SESSION 253

SPECTRAL SCATTERING, FLUORESCENCE, AND RAMAN TECHNOLOGY FOR FOOD QUALITY AND SAFETY Sponsored by PRS-701, ITSC-330

Moderator: Jianwei Qin, USDAARS Beltsville, MD

LOCATION: Beauregard- 5th Floor

Time	Paper #	Title/Authors
3:45PM		Introduction
3:50PM	152190172	Spatially offset Raman spectroscopy based on a line-scan hyperspectral Raman system Jianwei Qin, USDA-ARS, Beltsville, MD (J. Qin, K. Chao, M. Kim)
4:05PM	152189028	Hyperspectral reflectance imaging for benzoyl peroxide detection in flour Min Huang, Jiangnan University, Wuxi, China (M. Huang, M. Kim, K. Chao, J. Qin, Q. Zhu)

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 255

CHINA EXCHANGE - INVITED SPEAKERS - Sponsored by AOCABFE

Moderator: Lie Tang, Iowa State University Ames, IA

LOCATION: Carondelet- 3rd Floor

Time	Paper #	Title/Authors
2:30PM		Introduction
2:35PM		Evolving Relationships between Chinese and US Universities Dr. Norman Scott, Department of Biological and Environmental Engineering, Cornell University
2:50PM		Research on the Innovative Optimization Design of a Rotary Transplanting Machine for Rice Pot Seedlings Dr. Yun Zhao, College of Engineering, Northeast Agricultural University
3:05PM		Modern GPS and Automation Technologies in Ag Industry Dr. Shufeng Han, Intelligent Solutions Group, Deere & Company
3:20PM		ABE at Zhejiang University and International Campus at ZJU Dr. Yibin Yin, Zhejiang University
3:35PM		Cooperative US-China Programs: Planning for Continued Success Dr. Robert Burns, The University of Tennessee
3:50PM		International Research Cooperation at Northwest A&F University Dr. Shaojin Wang, College of Mechanical and Electronic Engineering, Northwest Agricultural and Forestry University
4:05PM		Introduction of Journal "Frontiers of Agricultural Science and Engineering (FASE)" and Precision Agriculture Research at CAU Dr. Lihua Zheng, China Agricultural University
4:15PM		Introduction of Journal "Information Processing in Agriculture (IPA)" and Research Progress of CICTA Dr. Zhenbo Li, China Agricultural University
4:25PM		Global Multidisciplinary Collaboration Towards Sustainable Animal Production Dr. Hongwei Xin, Agricultural and Biosystems Engineering, Iowa State University
4:40PM		Panel Q&A and free discussions
5:00PM		Adjourn

TUESDAY, JULY 28

Tuesday, July 28 - 2:30PM-5:00PM

SESSION 256

TECHNICAL TRENDS AND CAREER OPPORTUNITIES IN THE U.S. AND KOREA - INVITED SPEAKERS -

Sponsored by INTL-601

Moderator: Bosoon Park, USDA- ARS, Athens, GA

LOCATION: Jackson- 5th Floor

Time
2:30PM

Paper #

Title/Authors

Introduction to the AKABFE

Bosoon Park, AKABFE President, USDAARS, Athens, GA

2:35PM

Exploring Future Keywords from the History of Agricultural Engineering in South Korea

Kyo Suh, Seoul National University, Korea

2:55PM

The Role of Biological and Agricultural Engineers for Food Safety Research

Bosoon Park, USDAARS, Athens, GA

3:15PM

The Current Status of Agricultural Mechanization and Biosystems Engineering Research in Korea and Their Future

Hak Jin Kim, Seoul National University, Korea

3:35PM

Pursuing an Academic Career in Biological and Agricultural Engineering

Christopher Y Choi, University of Wisconsin, Madison, WI

3:55PM

Panel discussion



ASABE ANNUAL INTERNATIONAL MEETING

Disney's Coronado Springs Resort
Orlando, Florida | July 17 - 20, 2016

WEDNESDAY, JULY 29

Wednesday, July 29 - 7:30AM-9:00AM

SESSION 301

BIOMATERIALS AND BIOPRODUCTS - Sponsored by ASE

Moderator: Jeffrey Catchmark, Penn State Univ

LOCATION: LA Galleries 1- 2nd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:30AM	152189266	Cellulose Nanocomposites Production through Co-culturing Ke Liu, Penn State, State College, PA (K. Liu, J.M. Catchmark)
7:45AM	152189270	The Influences of xylan on properties of bacterial cellulose nanocrystals Kai Chi, The Pennsylvania State University, University Park, PA (K. Chi, J.M. Catchmark)
8:15AM	152190753	Influence of weather and swath density on drying characteristics of corn stover Amit Khanchi, Iowa State University, Ames, IA (A. Khanchi, S. Birrell)
8:30AM	152148814	Optimization of Polygonum cuspidatum drying for the retention of primary effective composition Wanxiu Xu, Jiangnan University, Wuxi, China (W. Xu, Z. Li, F. Song, J. Li, H. Pu)

Wednesday, July 29 - 7:30AM-10:00AM

SESSION 303

ADVANCES IN BIOMASS PREPROCESSING AND PRETREATMENT - PART 1 - Sponsored by ES-220, ES-210

Moderator: Jaya Shankar Tumuluru, Idaho

National Laboratory, Idaho Falls, ID

LOCATION: LA Galleries 3- 2nd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152172628	Comparison between radio frequency (RF) and traditional heating assisted alkaline pretreatment on four categories of lignocellulosic biomass Xiaofei Wang, Auburn University, Auburn, AL (X. Wang, Y. Wang, S. Taylor)
7:50AM	152181243	Effect of Pleurotus ostreatus pretreatment with low fungus loading on the simultaneous saccharification and fermentation of switchgrass Mengxing Li, Oklahoma State University, Stillwater, OK (M. Li, S.M. Marek, D. Carrier, M.D. Buser, M.R. Wilkins)
8:05AM	152181278	Microwave-assisted oil extraction from the seed of Ricinus communis Guillermo Arzate Martinez, Universidad Politecnica de Guanajuato, Cortazar, Mexico (L. Moreno Garcia, L. Perico Perez, G. Arzate Martinez, G. Raghavan)
8:20AM	152187499	The potential of big bluestem and other native grasses for bioethanol production Ke Zhang, Kansas State University, Manhattan, KS (K. Zhang, L. Johnson, V. Prasad, Z. Pei, W. Yuan, D. Wang)
8:35AM	152187864	High solids acid sulfite pretreatment of Eastern red-cedar for ethanol production via SSF Oscar Pardo-Planas, Oklahoma State University, Stillwater, OK (O. Pardo-Planas, M. Li, M.R. Wilkins)
8:50AM		Break
9:00AM	152188893	Hot Water Pretreatment of Cellulosic Biomass for Low Cost Reactive Sugar and Lignin Bin Yang, Washington State University, Richland, WA (B. Yang)
9:15AM	152189129	Composition and Enzymatic Hydrolysis of Biomass Pretreated with Alkaline Hydrogen Peroxide Spray Josh Jackson, University of Kentucky, Lexington, KY (J. Jackson, A.P. Turner, N.K. Koeninger, M. Montross)

9:30AM 152190726 **Enzymatic Hydrolysis Inhibitors in Rice Straw Hydrolyzates**

Danielle Julie Carrier, University of Arkansas, Fayetteville, AR (D. Carrier, K. Rajan)

9:45AM 152189948 **Fungal pretreatment of non-sterile Miscanthus x giganteus for enhanced sugar yield in enzymatic hydrolysis**

Juliana Vasco Correa, The Ohio State University, Wooster, OH (J. Vasco Correa, X. Ge, Y. Li)

10:00AM 152188753 **Proteomics of termite midgut to unravel the enzymatic machinery behind the H2O2 generation in the novel lignin degradation process.**

Innu Chaudhary, Washington State University, Pullman, WA (I. Chaudhary, S. Chen)

Wednesday, July 29 - 7:30AM-10:00AM

SESSION 304

BIOMASS CATALYTIC AND THERMOCHEMICAL CONVERSIONS - PYROLYSIS AND LIQUEFACTION - Sponsored by ES-220

Moderators: Sandun Fernando, Texas A&M University, College Station, TX and Veronica Mbaneme, North Carolina State University, Wendell, NC

LOCATION: LA Galleries 4- 2nd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152167800	Isolate protein peptides from defatted Camelina and Canola meals Shouyun Cheng, South Dakota State University, Brookings, SD (S. Cheng, L. Wei, X. Zhao, Y. SHEN, Y. Yu, L. Jing)
7:50AM	152189108	Carbon Coated Nanocrystalline Molybdenum Carbide: Synthesis, Characterization, and for Pyrolysis Rui Li, North Carolina A&T State University, Greensboro, NC (R. Li)
8:05AM	152189811	Effect of Pyrolysis Temperature and Post-pyrolysis Oxidation on the Physico-chemical Properties of Biochars Manuel Garcia-Perez, Washington State University, Pullman, WA (W. Suliman, M. Garcia-Perez)
8:20AM	152188658	Preparation and Characterization of Biochar and Activated Carbon Based Solid Acid Catalysts for Catalytic Microwave Pyrolysis Lei Zhu, Washington State University, Richland, WA (L. Zhu, H. Lei, X. Zhang, Y. Wei, Y. Liu, G. Yadavalli)
8:35AM	152187829	Integrated Concept of Conversion of Sweet Sorghum into Biofuels Umakanta Jena, Desert Research Institute, Reno, NV (U. Jena, D. Ekefre, A. Mahapatra, K. Hoekman, M. Mark Latimore, Jr.)
8:50AM	152182612	Catalytic cracking of carinata oil for hydrocarbon biofuel over Zn/Na-ZSM-5 Xianhui Zhao, South Dakota State University, Brookings, SD (X. Zhao, L. Wei, S. Cheng, Y. Yu, J. Julson)
9:05AM	152189253	Exploring Novel Catalysts for Selective Valorization of Lignin to Aromatics Lalitendu Das, North Carolina State University, Raleigh, NC (L. Das, P. Kolar, J. Osborne, R.R. Sharma-Shivappa, J. Classen)
9:20AM	152189641	Renewable jet fuel range cycloalkanes from integrated catalytic processes of lignocellulosic biomass Xuesong Zhang, Washington State University, Richland, WA (X. Zhang, H. Lei, L. Zhu, Y. Wei, Y. Liu, G. Yadavalli)

WEDNESDAY, JULY 29

9:35AM 152195196 Beauty Leaf Tree Press-cake – a Valuable Feedstock for Renewable Energy Production
Nanjappa Ashwath, Texas A&M Univeristy, College Station, TX, United States (N. Ashwath, H. Nam, S.C. Capareda)

Wednesday, July 29 - 7:30AM-10:00AM

SESSION 305

HEAT AND POWER GENERATION FROM RENEWABLE ENERGY - PART 1 - Sponsored by ES-210

Moderator: Jun Zhu, University of Arkansas, Fayetteville, AR

LOCATION: LA Galleries 5- 2nd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152162614	Oxygen gasification and its syngas upgrading in a fluidized-bed reactor using sand mixed dairy manure Hyungseok Nam, Texas A&M Univeristy, College Station, TX (H. Nam, A.L. Maglinao, S.C. Capareda)
7:50AM	152182731	Energy production from pyrolysis of Jatropa de-oiled cake Jinjuta Kongkasawan, Texas A&M University, College Station, TX (J. Kongkasawan, S.C. Capareda)
8:05AM	152188985	Analysis of an Optimized Milk Cooling Controller for Dynamic Electricity Pricing Tariffs Michael D. Murphy, Cork Institute of Technology, Cork, Ireland (M.D. Murphy, M.J. O'Mahony, J. Upton)
8:20AM	152189379	Development and validation of photovoltaic and wind turbine models to assess the impacts of renewable generation on dairy farm electricity consumption Michael C. Breen, Teagasc Moorepark, Fermoy, Ireland (M.C. Breen, M.D. Murphy, J. Upton)
8:35AM	152189662	Development of BES dynamic model for cogeneration plant using livestock manur Seungno Lee, Seoul National University, Seoul, Korea (the Republic of) (S. Park, I. Lee, S. Lee)
8:50AM		Break
9:00AM	152189796	Design of a Foldable Fresnel Lens Solar Thermal Collector for Power Generation Mauricio Bustamante, Michigan State University, East Lansing, MI (M. Bustamante, W. Liao)
9:15AM	152190441	Thermodynamics behavior of wood pellet gasification using a down-draft reactor Edris Madadian, McGill University, Lachine, Canada (E. Madadian, M.G. Lefsrud)
9:30AM	152190501	The effect of thermophilic anaerobic digestion co-substrate ratio on biogas yield for bioregenerative life support Charles H. Parrish, North Carolina State University, Raleigh, NC (C.H. Parrish, L.M. Byrne, A.R. Vinson, J.R. Lloyd, J. Classen, J.J. Cheng)

Wednesday, July 29 - 7:30AM-10:00AM

SESSION 306

HYPERSPECTRAL IMAGING APPLICATIONS: FOOD SAFETY AND QUALITY - Sponsored by ITSC-330, PRS-701

Moderator: Seung Chul Yoon, USDA-ARS Athens, GA

LOCATION: LA Galleries 6- 2nd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152190072	Recovery of Hyperspectral Images from Color Images for Food and Agricultural Applications Seung Chul Yoon, US Department of Agriculture, Agricultural Research Service, Athens, GA (S. Yoon, K.C. Lawrence, B. Park, G.R. Gamble, T. Shin, G.W. Heitschmidt)
7:50AM	152189350	Hyperspectral Microscopic Image Analysis for Food-borne Pathogenic Bacteria Identification Bosoon Park, USDA, ARS, Athens, GA (B. Park, Y. Seo, S. Yoon, K.C. Lawrence, G.R. Gamble)
8:05AM	152190223	Detection of the broken kernels content in bulk wheat sample using Near-Infrared (NIR) hyperspectral imaging Lankapalli Ravikanth, University of Manitoba, Winnipeg, Canada (L. Ravikanth, V. Chelladurai, D.S. Jayas)
8:20AM		Break
8:30AM	152189995	Visible near-infrared (VNIR) reflectance hyperspectral imagery for identifying aflatoxin-contaminated corn kernels Fengle Zhu, Mississippi State University, Stennis Space Center, MS (F. Zhu, H. Yao, Z. Hruska, R. Kincaid, R. Brown, D. Bhatnagar, T. Cleveland)
8:45AM	152188388	Hyperspectral analysis of organophosphorus pollution in paddy fields discharged water Yali Zhang, South China Agricultural University, Guangzhou, China (Y. Zhang, L. Qi, R. Ma, H. Zhan, J. Feng)
9:00AM	152191020	Potential of Hyperspectral Imaging to Monitor Cheese Ripening Colm O'Donnell, University College Dublin, Dublin, Ireland (C. O'Donnell, M. Zhao)

Wednesday, July 29 - 7:30AM-10:15AM

SESSION 307

BIG DATA, SPATIAL DATA AND ADVANCED DATA ANALYTICS - Sponsored by ITSC-254, ITSC-353, MS-54

Moderator: Yifan Liang, University of Wisconsin-Madison, Madison, WI

LOCATION: Mardi Gras A- 3rd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152181408	Electronic nose by Neural Networks for prediction of human assessments Fangle Cchang, Penn state University, State College, PA (F. Chang, P. Heinemann)
7:50AM	152181983	Artificial Neural Networks and Support Vector Machines: Contrast Study for Groundwater Level Prediction. Sandra M. Guzman, Mississippi State University, Mississippi State, MS (S.M. Guzman, J. Paz, M.L. Tagert, A. Mercer)
8:05AM	152190112	Labelling of thermal environment profiles in broiler facilities by means of the traffic light panel (TLP) as a colour-based model to support end-user in decision-making Dante Conti, University of Campinas, Campinas, Brazil (D. Conti, T.M. Carvalho, J.M. Martinez)

WEDNESDAY, JULY 29

8:20AM	152189874	Complex data analysis for very large files with Excel – A case study from biomass drying research Christopher Lanning, Forest Concepts, Auburn, WA (C. Lanning)
8:50AM		Break
9:00AM	152188548	Effect of Field Spatial Variability on Row-Crop Planter Performance and Crop Establishment Aurelie M. Poncet, Auburn University, Auburn, AL (A.M. Poncet, J. Fulton, T. McDonald, T. Knappenberger, G. Pate, J. Shaw, K. Balkcom, R. Bridges)
9:15AM	152188595	Practicing metadata analysis with corn production data from research plots Elizabeth Hawkins, Purdue University, West Lafayette, IN (E. Hawkins, D. Buckmaster)
9:30AM	152190167	Understanding the spatial heterogeneity of cattle locations and its effects on subsequent crop yield in an integrated corn-cattle system Tong Liu, University of Illinois, at Urbana - Champaign, Urbana, IL (T. Liu, L. Rodriguez, M.B. Villamil, A.R. Green, B.E. Lehman, D. Shike)
9:45AM	152189487	A Scalable Design Approach for a Precision Irrigation Data Acquisition System Camilo Lozoya, Monterrey Institute of Technology, Chihuahua, Mexico (C. Lozoya, C. Mendoza, V. Torres, S. Gallegos, R. Terán)

Wednesday, July 29 - 7:30AM-10:15AM

SESSION 308

YIELD MONITORING, ESTIMATION, AND INTERPRETATION TECHNIQUES - Sponsored by MS-54

Moderator: Ganesh Bora, North Dakota State University, Fargo, ND

LOCATION: Mardi Gras B- 3rd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152183324	Modeling Seasonal Canopy Light Interception and Potential Yield using proximally sensed PAR interception data and Aerial Images in Almond and Walnut trees Francisco Rojo, UC Davis, Davis, CA (F. Rojo, R. Dhillon, S. Upadhyaya, B. Lampinen, J. Roach)
7:50AM	152181254	3D reconstruction of citrus tree canopy using multiple view stereo vision Thomas F. Burks, University of Florida, Gainesville, FL (Z. Ni, T.F. Burks)
8:05AM	152189989	Effect of Calibration Procedures on Peanut Yield Prediction Error Kendall R. Kirk, Clemson University, Blackville, SC (D.H. Free, K.R. Kirk)
8:20AM	152189997	Measurement of Offloading Cylinder Pressure for Load Weight Determination in Peanut Yield Monitoring Kendall R. Kirk, Clemson University, Blackville, SC (D.H. Free, K.R. Kirk, J.W. White, J.S. Peele)
8:35AM		Break
8:45AM	152190035	Development and Testing of a Forage and Hay Yield Monitor for Use on Mowers H G. Ramsey, Clemson University, Blackville, SC (H.G. Ramsey, K.R. Kirk, G.S. Sell, J.G. Andrae, Y.J. Han, M.J. Fischer)
9:00AM	152190030	Development and Testing of a Hay Yield Monitor for Use on Balers H G. Ramsey, Clemson University, Blackville, SC (H.G. Ramsey, K.R. Kirk, G.S. Sell, J.G. Andrae, Y.J. Han, M.J. Fischer)
9:15AM	152190840	Use of crop production field data in the development of In-Season Estimate of Yield algorithm Rohit Pathak, NDSU, Fargo, ND (R. Pathak)

9:30AM	152170604	Site-specific Relationship between Corn Population and Yield Earl Vories, USDA-ARS, Portageville, MO (E. Vories, K. Sudduth, G. Stevens, S. Drummond, M. Rhine)
9:45AM	152188653	Effect of Spatial Variability in Crop Characteristics and Slope of the Ground on Wild Blueberry Fruit Losses Aitazaz A. Farooque, Dalhousie University, Truro, Canada (A.A. Farooque, Q. Zaman, D. Groulx, K. Corscadden, A. Schumann, T. Quang, T. Esau)

Wednesday, July 29 - 7:30AM-9:30AM

SESSION 309

ADVANCES IN SOIL-PLANT-MACHINE DYNAMICS - Sponsored by

MS-45, MS-42, MS-43

Moderator: Andrew Klopfenstein, Ohio State University, Haviland, OH

LOCATION: Mardi Gras C- 3rd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152188961	Comparison of soil porosity structure under conventional and reduced tillage Marie-France Destain, ULg, Gembloux, Belgium (M. Destain, C. Roisin, B.C. Mercatoris)
7:50AM	152189648	The effect of tire tracks on draft force requirements of soil tillage and field traffic systems Tom Underhill, Harper Adams University, Newport, United Kingdom (S. Arslan, P.A. Misiewicz, E. Smith, D. White, T. Underhill, R. Godwin)
8:05AM	152189738	Transient analysis and stability simulation on a small hillside crawler tractor steering on slopes Guanting Pan, College of Mechanical and Electronic Engineering, Northwest A&F University, Yangling, China (G. Pan, F. Yang, Q. Yang)
8:20AM		Break
8:30AM	152190070	Evaluation of Steering Slip Angle as a Function of Angular Velocity in Articulated Machinery Rees Bridges, Auburn University, Auburn, AL (R. Bridges, T. McDonald, C. Xue)
8:45AM	152189009	Controlled Traffic Farming in Germany - Technical and Organisational Realisation and Results Markus Demmel, Institute for Agricultural Engineering and Animal Husbandry, Freising, Germany (M. Demmel, R. Brandhuber, H. Kirchmeier)
9:00AM	152189605	Tractive Performance of Rubber Track as Traction Device for Walking Tractor Hifjur Raheman, Indian Institute of Technology, Kharagpur, Kharagpur, India (H. Raheman, S. Rasool)
9:15AM	152212278	Establishment of a Field-Scale Trial to Investigate Traffic and Tillage Systms for Row Crops in Sub Saharan Africa Joseph P. Martlew, Harper Adams University, Newport, United Kingdom (J.P. Martlew, P.A. Misiewicz, K. Chaney, S. Woods)

WEDNESDAY, JULY 29

Wednesday, July 29 - 7:30AM-10:15AM

SESSION 310

ANIMAL MANURE MANAGEMENT SYSTEMS - Sponsored by NRES-27

Moderator: Mindy Spiehs, USDA ARS, Clay Center, NE

LOCATION: Mardi Gras D- 3rd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152187144	Woodchip Heavy-Use Area Effluent Quality, Quantity, and Hydrologic Design Considerations Joshua Faulkner, University of Vermont, Burlington, VT (J. Faulkner, T. Basden, D. DeVallance)
7:50AM	152187784	Water Holding Capacity of Beef Manure-Bedding Mixtures and Design Implications Aikaterini Kasimati, University of Illinois at Urbana-Champaign, Agricultural and Biological Engineering Department, Urbana, IL (A. Kasimati, L.M. Pepple, M. Hayes, D. Shike, R. Gates)
8:05AM	152189792	Laboratory evaluation of biomass media for use in livestock heavy-use areas David DeVallance, West Virginia University, Morgantown, WV (D. DeVallance, J. Faulkner, T. Basden)
8:20AM	152190232	A Survey Study of Manure Management Situations in Modern China Livestock Operation Yijie Xiong, University of Illinois at Urbana-Champaign, Urbana, IL (Y. Xiong, T.L. Funk, R. Gates)
8:35AM	152189078	Preliminary Investigation of the Reaction of Maize (zea maize) Planted in a Sandy Loam Soil Incorporated with Organic and inorganic Materials before Tractor Traffic Application in Yola, Adamawa State, Nigeria John O. Ohu, Univ of Maiduguri, Maiduguri, Nigeria (J.O. Ohu, S.K. Tya, A.W. Gundiri, E. Mamman)
8:50AM		Break
9:00AM	152189118	The denitrification of nitrified biogas-slurry from a swine farm using a biodegradable polymer as carbon source Zhiying Han, Zhejiang University, Hangzhou, China (Z. Han, S. Chen, L. Wang, L. Duan, Z. Ye)
9:15AM	152186959	Strategies to optimize a Two-Step Fed Sequencing Batch Reactor (SBR) System to Remove Nutrients from Swine Wastewater Xiao Wu, University of Minnesota, St. Paul, MN (X. Wu, J. Zhu)
9:30AM	152163947	A Novel System for Reducing Agricultural Nitrogen Deposition in Sensitive Ecosystems William Faulkner, Texas A&M University, College Station, TX (W. Faulkner)
9:45AM	152187949	Effect of Dietary Tannin on Biomethane Potential of Dairy Manure Hui Wang, UW-Madison, Madison, WI (H. Wang, R. Larson)

Wednesday, July 29 - 7:30AM-10:00AM

SESSION 311

MODELING SUBSURFACE DRAINAGE SYSTEM - Sponsored by NRES-23

Moderator: Srinivasulu Ale, Texas A&M AgriLife Research, Vernon, TX

LOCATION: Mardi Gras H- 3rd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152190769	Targeted Controlled Drainage Management Strategies to Reduce Nitrogen and Phosphorus Loads from Subsurface Drainage systems in the Western Lake Erie Basin Lindsay Pease, The Ohio State University, Columbus, OH (L. Pease, N. Fausey, J. Martin)

7:50AM	152190904	Impact of subsurface drainage on field-scale water yield in eastern South Dakota Govinda Karki, South Dakota State University, Brookings, SD (G. Karki, C. Hay, J. Kjaersgaard, T. Trooien)
8:05AM	152161437	Simulating climate change impacts on crop production and nitrogen loss through subsurface drainage systems Zhiming Qi, McGill University, Sainte-Anne-de-Bellevue, Canada (Z. Wang, Z. Qi, L. Xue, M. Bukovsky, M. Helmers)
8:20AM	152190391	Optimizing perforations in buried high density polyethylene pipes for drainage applications Naresh Gaj, McGill University, Sainte Anne de Bellevue, Canada (N. Gaj, C. Madramootoo)
8:35AM		Break
8:45AM	152190011	Measurement and simulation of infiltration rates into undrained and subsurface drained soils Debjit Roy, North Dakota State University, Fargo, ND (D. Roy, x. jia, D.D. Steele, X. Chu)
9:00AM	152180542	Evaluating hydrological output of DRAINMOD from measured soil properties and estimated soil properties using pedotransfer functions Govinda Karki, South Dakota State University, Brookings, SD (G. Karki, C. Hay, J. Kjaersgaard, T. Trooien)
9:15AM	152191012	Evaluation of DRAINMOD model for hydrology and water quality of an agricultural tile drained watershed Golmar Golmohammadi, University of Guelph, Guelph, Canada (G. Golmohammadi, R. Rudra, P. Shiv, a. madani, P. Goel)
9:30AM	152190795	Modeling water table elevations for curtain-drain applications with on-site wastewater treatment systems in Ohio Vinayak S. Shedeekar, The Ohio State University, Columbus, OH (V.S. Shedeekar, Y. Shang, L. Pease, M. Ghumrawi, R. Toledo-De Leon, K. Gunn, L. Diop, L. Brown)

Wednesday, July 29 - 7:30AM-10:15AM

SESSION 312

IMPROVING IRRIGATED CROP PRODUCTION - Sponsored by NRES-24,

NRES-241, NRES-242, NRES-244, NRES-245, NRES-246

Moderator: Brian Leib, University of Tennessee, Knoxville, TN

LOCATION: Mardi Gras F- 3rd Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152167425	Modeling Deficit Irrigation Strategies for Corn using CERES-Maize Isaya Kisekka, Kansas State University, Garden City, KS (I. Kisekka)
7:50AM	152190459	Wheat Yield Response to Limited Irrigation and Fungicides Isaya Kisekka, Kansas State University, Garden City, KS (I. Kisekka, J. Holman, R. Currie, J. Aguilar, D. Tomsicek)
8:05AM	152190113	Deficit Irrigation of Cotton on High Water Holding Capacity Soils in a Humid Region Brian Leib, University of Tennessee, Knoxville, TN (B. Leib, C.O. Gwathmey)
8:20AM	152190326	Modification of Strawberry Irrigation Practices on Transplants for the Central Coast of California Stuart W. Styles, Cal Poly, Morro Bay, CA (S.W. Styles, J. DuBois)
8:35AM		Break
8:45AM	152181942	Development of an irrigation scheduling model for tree orchards: a case for avocado Deanroy Mbabazi, University of Florida, Gainesville, FL (D. Mbabazi, K. Migliaccio, C. Fraisse, J.H. Crane, L. Zotarelli, K. Morgan)

WEDNESDAY, JULY 29

9:00AM	152184986	Comparison of irrigation scheduling with an evapo-transpiration controller and a real-time irrigation app for warm season turf Kati Migliaccio, University of Florida, Homestead, FL (K. Migliaccio, C. Fraisse, K. Morgan, G. Vellidis, J. Andreis)
9:15AM	152189112	Development of a GIS Database for Irrigation Water-Use Monitoring and Management Kevin O. Achieng, University of Nebraska–Lincoln, Lincoln, NE (K.O. Achieng, L. Odhiambo, S. Irmak)
9:30AM	152182011	Irrigation energy use efficiency in Maize-Soybean Cropping System in the Republic River Basin, South-west Nebraska Adriano V. Diotto, University of Nebraska - Lincoln, Lincoln, NE (A.V. Diotto, S. Irmak, L. Odhiambo)
9:45AM	152187459	Effect of Soybean Plant Population on Evapotranspiration, Transpiration, Soil-Water, Crop Coefficients, Yield and Water-Use Efficiency under Deficit Irrigation Rupinder K. Sandhu, University of Nebraska Lincoln, Lincoln, NE (R.K. Sandhu, L. Odhiambo, S. Irmak)

Wednesday, July 29 - 9:30AM-12:15PM

SESSION 313

REGIONAL SCALE NUTRIENT MANAGEMENT STRATEGIES -

Sponsored by NRES-26

Moderator: Phillip Gassman, Iowa State Univ

LOCATION: Mardi Gras E- 3rd Floor

Time	Paper #	Title/Authors
9:30AM		Introduction
9:35AM	152316095	Iowa Nutrient Reduction Strategy Matthew Helmers, Iowa State University, Ames, IA (M. Helmers)
10:05AM	152316123	Crop Rotation and Raccoon River (Iowa) Nitrate Christopher Jones, Iowa State University, Ankeny, IA (C. Jones)
10:35AM	152316130	An Overview of the Illinois Nutrient Loss Reduction Strategy Warren Goetsch, IL Dept of Agriculture, Springfield, IL (W. Goetsch)
11:05AM		Break
11:15AM	152342947	CEAP Cropland Assessment Status and Future Plans Jeffery Arnold, USDA-ARS, Temple, TX (J.J.G. Arnold, M.J. White, M. DiLuzio, M. Johnson)
11:30AM	152316166	Cost-Effective Targeting of Conservation Investments in the Mississippi-Atchafalaya River Basin to Reduce the Northern Gulf of Mexico Hypoxic Zone Sergey Rabotyagov, University of Washington, Seattle, WA (S. Rabotyagov)

Wednesday, July 29 - 7:30AM-10:00AM

SESSION 314

ECOHYDROLOGY - Sponsored by

NRES-21, NRES-261

Moderator: Fouad Jaber, Texas A&M Agrilife, Dallas, TX

LOCATION: Bonaparte- 4th Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152180386	Defining Landscape Ecological Function with the Use of Hydrodynamic Vectors Richard A. Weber, USDA-NRCS, Fort Worth, TX (R.A. Weber)
7:50AM	152176482	Predicted Influence of Eastern Redcedar Removal on Water Quantity and Quality using WEPP Whitney Lisenbee, Oklahoma State University, Stillwater, OK (W. Lisenbee, G. Fox, C. Zou, D. Storm, C. Penn, E. Stebler, A. Mittelstet)

8:05AM	152185494	Development and Improvement of the Simulation of Woody Bioenergy Crops (Hybrid Poplar and Eastern Cottonwood) in ALMANAC and SWAT Tian Guo, Purdue University, West Lafayette, IN (T. Guo, B. Engel)
8:20AM	152189916	The effects of different biofuel crops and fertilizer rates on subsurface water quality and yield on marginal land Amanda K. Montgomery, Purdue University, West Lafayette, IN (A.K. Montgomery, R. Dierking, S. Brouder, I. Chaubey, J. Volenec)
8:35AM		Break
8:45AM	152185358	Comparative performance of two SWAT model set ups on assessing impact of biofuel crops production on water quality Eeshan Kumar, University of Arkansas, Fayetteville, AR (E. Kumar, D. Saraswat)
9:00AM	152188862	Uncovering algal ecological networks through dynamic time series analysis Natalie Nelson, University of Florida, Gainesville, FL (N. Nelson, R. Munoz-Carpena, R. Huffaker, E. Philips)
9:15AM	152190976	Closing the prediction gap between agricultural nutrient losses and riparian zone ecology Tamie L. Veith, USDA-ARS, University Park, PA (T.L. Veith, A.S. Collick, S. Yetter, C. Regan, M. Nassry)
9:30AM	152191054	Water quality impacts of intercropping Loblolly pine (Pinus taeda) and switchgrass (Panicum virgatum) in coastal plain watersheds of the southeastern United State Nicole Dobbs, North Carolina State University, Raleigh, NC (N. Dobbs, F. Birgand, G. Chescheir, E. Allen)

Wednesday, July 29 - 7:30AM-10:15AM

SESSION 315

CLIMATE VARIABILITY AND CHANGE IMPACTS ON AGRICULTURE, WATER AND NATURAL RESOURCES - PART 1 - Sponsored by

NRES-21

Moderator: Puneet Srivastava, Auburn, AL

LOCATION: Regent- 4th Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152185284	Simulation of regional yields and GHG emissions under climate change of wheat-based systems in the US Pacific Northwest Tina Karimi, WSU-BSYSE, Pullman, WA (T. Karimi, C. Stöckle, R. Nelson, M. Liu, J. Abatzoglou, U. Zaher, D. Huggins)
7:50AM	152189377	Understanding Temperature Inversions and Improving Frost Forecasting for Central Washington Growers Jonathan Gramann, AgWeatherNet, Washington State University, Prosser, WA (J. Gramann, G. Hoogenboom)
8:05AM	152189579	Effects of Irrigation Pumpage during droughts on Groundwater Levels and Groundwater Budget Components in the Lower Apalachicola-Chattahoochee-Flint River Basin. Subhasis Mitra, Auburn University, Auburn, AL (S. Mitra, P. Srivastava, S. Singh)
8:20AM	152189697	Water management for sugarcane and maize under future climate scenarios in Brazil Jarbas H. Miranda, "Luiz de Queiroz" College of Agriculture (ESALQ/USP), Piracicaba, Brazil (L.A. Oliveira, J.H. Miranda, R. Cooke)
8:35AM		Break

WEDNESDAY, JULY 29

8:45AM	152190267	How does an irrigation-induced land atmospheric interaction affect the response of agricultural productivity to heat and water stress Keyvan Malek, Washington State University, Pullman, WA (K. Malek, J. Adam, C. Stöckle)
9:00AM	152190823	Investigation and Quantification of Water Track Networks in Sub-Arctic Alaska Debasmita Misra, University of Alaska Fairbanks, Fairbanks, AK (U. Mendbayer, T. Gupta, D. Misra, T. Ghosh)
9:15AM	152189787	What do climate projections say about future droughts in Southeast US? Nischal Mishra, Auburn University, Auburn, AL (N. Mishra, P. Srivastava)
9:30AM	152189801	Analysis of Lifecycle Environmental Implications of Agricultural Product Solhee Kim, Seoul National University, Seoul, Korea (the Republic of) (S. Kim, K. Suh, T. Kim, J. Park)

Wednesday, July 29 - 7:30AM-10:15AM

SESSION 316 LOW IMPACT DEVELOPMENT -

Sponsored by NRES-261

Moderator: Fouad Jaber, Texas A&M Agrilife, Dallas, TX

LOCATION: Bacchus- 4th Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152182919	Defining Predevelopment Hydrologic Reference Conditions in North Carolina, USA: Preliminary Results Charles Stillwell, North Carolina State University, Raleigh, NC (C. Stillwell, J. Page, W. Hunt)
7:50AM	152188564	Long Term Performance of Bioretention Cells with a Fly Ash Filter Media Saroj Kandel, Oklahoma State University, Stillwater, OK (S. Kandel, D. Brown, J. Vogel, D. Penn, D. Storm)
8:05AM	152187679	Hydrologic and Water Quality Analysis of a Regenerative Stormwater Conveyance (RSC) in the North Carolina Piedmont Kevin Koryto, North Carolina State University, Raleigh, NC (K. Koryto, W. Hunt, J. Page)
8:20AM	152189942	Should Fly Ash Be Used in Stormwater Filter Media? Glenn Brown, Oklahoma State University, Stillwater, OK (G. Brown, J. Vogel, D. Storm, C.J. Penn)
8:35AM	152189993	Floating Island on a Roof for Rainwater Management Manuel R. Reyes, North Carolina A&T State University, Greensboro, NC (M.R. Reyes, M. Keefer)
8:50AM		Break
9:00AM	152190096	Development of a GIS-based BMP Siting Tool for use in Coastal Virginia Rachael D. Johnson, Virginia Tech, Virginia Beach, VA (R.D. Johnson, D. Sample)
9:15AM	152190191	Disconnected Homeowner Downspouts Evaluated as Stormwater Control Measures for Volume Reduction Performance Andrew Anderson, North Carolina State University, Raleigh, NC (N. Carmen, A. Anderson, W. Hunt)
9:30AM	152190214	Evaluating Bioretention Performance When Coupled with Upstream Underground Detention Jeffrey Johnson, North Carolina State University, Raleigh, NC (J. Johnson, J. Page, W. Hunt)
9:45AM	152191036	Reduction of Hydrocarbons by Bioretention, as Measured by Carbon Isotopes Abigail Tamkin, The Ohio State University, Columbus, OH (A. Tamkin, J. Martin)

Wednesday, July 29 - 7:30AM-10:00AM

SESSION 317 GEOMORPHOLOGY, STREAMBANK STABILITY, AND IN-STREAM PROCESSES -

Sponsored by NRES-25

Moderator: Carmen Agouridis, University of Kentucky, Lexington, KY

LOCATION: Iberville- 4th Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152189508	Site-Scale Variability of Streambank Fluvial Erodibility Parameters as Measured with a Jet Erosion Test Erin Daly, Oklahoma State University, Stillwater, OK (E. Daly, G. Fox, H. Enlow, S. Hunt)
7:50AM	152177160	Non-Linear Detachment Model in Streambank Erosion and Stability Models Anish Khanal, Oklahoma State University, Stillwater, OK (A. Khanal, G. Fox, E. Daly)
8:05AM	152163834	Quantifying Streambank Erosion in the Fort Cobb Reservoir Watershed Holly Enlow, Oklahoma State University, Hodgenville, KY (H. Enlow, G. Fox, K.R. Klavon)
8:20AM	152182551	Application of SWAT to Predict Watershed-Scale Streambank Erosion on Composite Streambanks Aaron R. Mittelstet, Oklahoma State University, Stillwater, OK (A.R. Mittelstet, D. Storm, G. Fox)
8:35AM	152185082	Estimating Streambank Erosion and Phosphorus Loads for the Barren Fork Creek Watershed in Eastern Oklahoma Aaron R. Mittelstet, Oklahoma State University, Stillwater, OK (A.R. Mittelstet, D. Storm, G. Fox)
8:50AM	152190805	Habitat for Steelhead and California Freshwater Shrimp: A Design Using LUNKERS Boxes and Other Streambank Bioengineering Techniques Carolyn M. Jones, USDA NRCS CA, Dixon, CA (C.M. Jones)

Wednesday, July 29 - 7:30AM-10:15AM

SESSION 318 NUTRIENT REMOVAL, RECOVERY AND RECYCLING -

Sponsored by

NRES-28
Moderator: Wendong Tao, State University of New York, Syracuse, NY

LOCATION: Balcony I- 4th Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152189590	Effects of different gas-liquid ratios and reactor shape factors on microalgae growth and nutrient removal Yuguang Zhou, China Agricultural University, Beijing, China (Y. Yu, Y. Zhou, A. Pang, L. Ning, F. Ji, J. Guo, R. Dong)
7:50AM	152190311	Effect of process variables on the attached co-cultures of a fungi and algae in ethanol co-products for nutrient recovery Aravindan Rajendran, University of Minnesota, St Paul, MN (A. Rajendran, B. Hu, J. Gan, H. Lin, Y. Zhang, Q. He)
8:05AM	152190937	Sustainable Bio-Fertilizer Production From Anaerobically Digested Organic Wastes Tyler J. Barzee, University of California Davis, Davis, CA (T.J. Barzee, R. Zhang, A. Edalati, H. El-Mashad)
8:20AM	152190912	Effect of solids retention time on bioavailable dissolved organic nitrogen in wastewaters Halis Simsek, Department of Agricultural & Biosystems Engineering, North Dakota State University, Fargo, ND (S. Sharma, H. Mansur, B. Cemek, H. Simsek)

WEDNESDAY, JULY 29

8:35AM	152191057	Water Quality Effectiveness and Economic Evaluation of Strategies for Sustaining the Stormwater Detention Areas as Phosphorus Sinks Sanjay Shukla, University of Florida, Immokalee, FL (A. Shukla, S. Shukla)
8:50AM	152182953	Biodegradable and bioavailable dissolved organic nitrogen in animal wastewater jingyi Sun, Department of Agricultural and Biosystems Engineering, North Dakota State University, Fargo, ND (j. Sun, E. Khan, J. Ohm, H. Simsek)
9:05AM	152190476	Assessment of On-Farm Water Storage Systems (OFWS) as a BMP for Sustainable Irrigation and Nutrient Loading Control in Mississippi Ritesh Karki, Mississippi State University, Starkville, MS (R. Karki, M.L. Tagert, J. Paz)
9:20AM	152190266	Effect of polymer-coated urea on cotton yield and nitrogen uptake under various irrigation regimes and in varying soil water-holding conditions Timothy J. Grant, University of Tennessee, Knoxville, TN (T.J. Grant, B. Leib, H. Savoy, A. Haghverdi)

Wednesday, July 29 - 7:30AM-9:00AM

SESSION 319

ENERGY USE IN LIVESTOCK AND POULTRY FACILITIES - Sponsored by PAFS-302

Moderator: Jeremiah Davis, Auburn University, Auburn, AL

LOCATION: Balcony J- 4th Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152184369	Comparing Radiant Heater Efficiency Using Spatial Modeling John Linhoss, Ag & Bio Engineering, Mississippi State University, Starkville, MS (J. Linhoss, J. Davis, J. Purswell)
7:50AM	152189210	Electricity and Fuel Use of Three Laying-hen Housing Systems: Conventional Cage, Aviary, and Enriched Colony Timothy A. Shepherd, Iowa State University, Ames, IA (T.A. Shepherd, H. Xin, M. Hayes, Y. Zhao, H. Li, J.P. Stinn)
8:05AM	152189338	Using Wood Pellet Fuel to Heat Broiler Houses Doug Overhults, University of Kentucky, Princeton, KY (D. Overhults)
8:20AM	152190839	Energy Efficient Updates for Poultry Facilities Leon G. Schumacher, University of Missouri, Columbia, MO (L.G. Schumacher, B. Robertson)
8:35AM	152194887	Combustion Efficiency of Poultry Heating Systems Joseph Purswell, USDA- ARS, Starkville, MS (J. Purswell, J. Linhoss, D. Overhults, J. Davis)

Wednesday, July 29 - 9:00AM-10:15AM

SESSION 320

RECENT ADVANCEMENTS IN POULTRY HOUSING SYSTEMS - Sponsored by FS-405

Moderator: Joseph Purswell, USDA-ARS Starkville, MS

LOCATION: Balcony K- 4th Floor

Time	Paper #	Title/Authors
9:00AM		Introduction
9:05AM	152194880	Efficacy and Spectral Output of Poultry Lighting Systems Joseph Purswell, USDA- ARS, Starkville, MS (J. Purswell, H. Olanrewaju)

9:20AM	152183776	Performance Assessment of Cooled Perch System for Heat Stress Trials in Egg Laying Production: Year 1 Yijie Xiong, University of Illinois at Urbana-Champaign, Urbana, IL (Y. Xiong, R. Gates, K.S. Rocha, J. Hu, M. Makagon, P. Hester, H. Cheng)
9:35AM	152190107	Gas emissions from three cage layer housing systems Frederic Pelletier, R&D Institute for the Agri-environment, Quebec City, Canada (F. Pelletier, S. Godbout, Y. Mahmoudi, F. Philippe, K. Bouallagui)
9:50AM	152189103	Mitigate Air Emissions from Animal Feeding Operations and Recover Nutrients Using an Integrated Water Curtain-Microalgal Culture System Wei Liao, Michigan State University, East Lansing, MI (Q. Li, W. Powers, D. Rozeboom, Y. Liu, W. Liao)

Wednesday, July 29 - 7:30AM-10:00AM

SESSION 321

DRYING HANDLING AND STORAGE- PART 1 - Sponsored by PRS-702

Moderator: Kevin Moore, Oklahoma State University, Stillwater, OK

LOCATION: Balcony L- 4th Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152189709	Energy Requirements for Drying Corn in Kentucky — Survey Results Sam G. McNeill, University of Kentucky, Princeton, KY (S.G. McNeill)
7:50AM	152189576	Effect of using Heater on Natural Air Drying of Corn Johnselvakumar Lawrence, IntelliAir, Archie, MO (J. Lawrence)
8:05AM	152184747	Effects of Warming Frozen Stored Grain using Aeration Kenneth J. Hellevang, North Dakota State University, Fargo, ND (K.J. Hellevang)
8:20AM	152187104	Influence of temperature and dosage on efficacy of a diatomaceous earth formulation on Tribolium castaneum adults Jennifer Frederick, Kansas State University, Manhattan, KS (J. Frederick, B. Subramanyam, H. Dogan)
8:35AM		Break
8:45AM	152189124	Modeling Phosphine Fumigant Dispersal in 2D and 3D Horizontal Bulk Grain Storage System Mark Casada, USDA ARS CGAHR SPIERU, Manhattan, KS (J.M. Boac, M. Casada, J. Lawrence, B. Plumier, D. Maier, R. Ambrose)
9:00AM	152189234	Long term storage of corn stover using low-moisture anhydrous ammonia (LMAA) pretreatment method Minliang Yang, Iowa State University, Ames, IA (M. Yang, K.A. Rosentrater)
9:15AM	152189396	In-store drying as an alternative for corn drying in Uganda Robert Mugabi, University of Nebraska-Lincoln, Lincoln, NE, United States (R. Mugabi, R. Driscoll)
9:30AM	152189472	Assessing grain trailer conditions during soybean transport from harvest to storage in Sinop, Mato Grosso, Brazil Mary-Grace Danao, University of Illinois , Urbana, IL (M. Danao, L.G. Barbosa, R.S. Zandonadi, R. Gates, A. Pacheco de Souza)

WEDNESDAY, JULY 29

Wednesday, July 29 - 7:30AM-10:00AM

SESSION 322

ANAEROBIC DIGESTION AND ADVANCES IN MANURE, FOOD AND ORGANIC WASTE - Sponsored by

PRS-707, NRES-264

Moderators: Yebo Li, Ohio State University, Wooster, OH and Yan Liu, Michigan State University, East Lansing, MI

LOCATION: Audubon- 5th Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152188177	The effect of copper sulfate addition on the performance of an anaerobic digester treating dairy manure Elsie M. Jordaan, University of Manitoba, Winnipeg, Canada (E.M. Jordaan, H. Derakhshani, E. Khafipour, N. Cicek)
7:50AM	152214709	Dynamic Responses of Anaerobic Microorganisms to Different Culture Conditions and Corresponding Effects on Anaerobic Digestion Performance Wei Liao, Michigan State University, East Lansing, MI (W. Liao, R. Chen, M.M. Roos, Y. Zhong, T. Marsh, L. Uribe, L.L. Uribe, D. Kirk)
8:05AM	152219857	Food waste addition for enhanced giant reed ensiling and methane production Yebo Li, Ohio State University, Wooster, OH (S. Liu, F. Xu, L. Niece Liew, Y. Li)
8:20AM	152156856	Cassava Waste as Source of Biomethane Sammy N. Aso, University of Florida, Gainesville, FL, United States (S.N. Aso, C. Pullammanappallil, A.A. Teixeira, B.A. Welt, W. Yang)
8:35AM	152214794	Solid-state anaerobic co-digestion of kitchen food waste and food packages Fuqing Xu, The Ohio State University, Wooster, OH (Y. Jiang, F. Xu, Y. Li)
8:50AM	152186863	Effect of limited air exposure and comparative performance between thermophilic and mesophilic solid-state anaerobic digestion of switchgrass Johnathon Sheets, The Ohio State University-OARDC, Wooster, OH (J. Sheets, X. Ge, Y. Li)
9:05AM	152172659	Anaerobic digestion with microbial electrochemical systems drives the biogas production, antibiotic removal, and nutrient recuperation Hongjian Lin, University of Minnesota, St Paul, MN (H. Lin, X. Zhang, J. Gan, Q. He, C.R. Reis, A. Rajendran, M. Yan, Y. Yang, Y. Zhang, B. Hu)
9:20AM	152214748	Integrating Solar-Bio-Nano-Technologies to Develop a Self-sustaining Waste Utilization System Wei Liao, Michigan State University, East Lansing, MI (W. Liao, R. Chen, M. Bustamante, Z. Liu, O. Sanyal, Y. Liu, I. Lee)

Wednesday, July 29 - 7:30AM10:00AM

SESSION 323

PHYSICAL PROPERTIES AND MODELING OF FOOD AND BIO-PRODUCTS - Sponsored by PRS-702

Moderator: Griffiths G Atungulu, Univ of Arkansas

LOCATION: Beauregard- 5th Floor

Time	Paper #	Title/Authors
7:30AM		Introduction
7:35AM	152174320	Quality changes in high barrier polymeric packages – A shelf-life study for microwave assisted thermally sterilized food Hongchao Zhang, Department of Biological Systems Engineering, Washington State University, Pullman, WA (H. Zhang, S. Sablani, J. Tang, B. Rasco)

7:50AM	152189468	Estimation of viscoelastic properties by ultrasound measurement Nilesh V. Salvi, University of Missouri, Columbia, MO (N.V. Salvi, J. Tan)
8:05AM	152184984	Rapid determination of high heating value and elemental compositions of sorghum biomass using near-infrared spectroscopy Ke Zhang, Kansas State University, Manhattan, KS (K. Zhang, L. Zhou, M. Brady, F. Xu, J. Yu, D. Wang)
8:20AM	152189241	Effect of different millets with tapioca starch on extrudate properties Kasisviswanathan Muthukumarappan, South Dakota State University, Brookings, SD (K. Chinnadurai, K. Muthukumarappan)
8:35AM		Break
8:45AM	152189631	Hopper flow characteristics of modified distillers dried grain with solubles Kaliramesh Siliveru, Kansas state university, Manhattan, KS (K. Siliveru, R. Bhadra, R. Ambrose, M. Casada)
9:00AM	152189759	Physical, chemical, and flow properties of different millets and their flours Karunanithy Chinnadurai, UW-Stout, Menomonie, WI (K. Chinnadurai, R. Ambrose, K. Muthukumarappan)
9:15AM	152189883	Physical and Thermal Properties of Spray Dried Egg White Powder Sreenivasula Reddy Boreddy, UNL, Lincoln, NE (S. Boreddy, J. Subbiah)
9:30AM	152190725	Testing Protocols to Determine the Explosibility of Dusts Russell McGee, TAMU, College Station, TX (R. McGee, C. Parnell)

Wednesday, July 29 - 10:15AM-12:00PM

SESSION 324

ADVANCES IN BIOMASS PREPROCESSING AND PRETREATMENT - PART 2 - Sponsored by ES-220, ES-210

Moderator: Jaya Shankar Tumuluru, Idaho National Laboratory, Idaho falls, ID

LOCATION: LA Galleries 3- 2nd Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152188467	Physical treatment s for reducing biomass ash and effects on bio oil yield and quality Ujjain Pradhan, Auburn University, Auburn, AL (U. Pradhan, O.O. Fasina, S. Adhikari, T. McDonald)
10:35AM	152189440	Development of Process Model for Assessment of Steam Treatment of Biomass for Pellet Production Amit Kumar, University of Alberta, Edmonton, Canada (S. Shahrukh, A.O. Oyedun, A. Kumar)
10:50AM	152189954	Effect of water temperature on milled industrial beet juice multiple extraction Anand K. Pothula, North Dakota State University, Fargo, ND (A.K. Pothula, I. Cannayen, M. Momin, R. Whittaker, J. Halvorson)
11:05AM	152190029	Hydrothermal liquefaction of pipeline-transported biomass feedstock Mayank Kumar, University of Alberta, Edmonton, Canada (M. Kumar, A. Oyedun, A. Kumar)
11:20AM	152189640	Enhancement of Algal Biomethane Production Through Pretreatments and Protein Extraction Naga Sirisha Parimi, University of Georgia, Athens, GA (N. Parimi, M. Singh, J.R. Kastner, K.C. Das)
11:35AM	152190194	Aqueous enzymatic extraction of oil and protein from microalgae: Enzyme screening and assay optimization Chelsea Dixon, Kansas State University, Manhattan, KS (C. Dixon, L. Soto Sierra, L.R. Wilken)

WEDNESDAY, JULY 29

Wednesday, July 29 - 10:15AM-12:00PM

SESSION 325

HEAT AND POWER GENERATION FROM RENEWABLE ENERGY - PART 2

- Sponsored by ES-210

Moderator: Glenn Farris, AGCO

LOCATION: LA Galleries 5- 2nd Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152189428	A Techno-economic Assessment of Co-firing Biomass with Coal and Natural Gas in Western Canada Amit Kumar, University of Alberta, Edmonton, Canada (E. Agbor, X. Zhang, A.O. Oyedun, A. Kumar)
10:35AM	152187802	Life Cycle Assessment of Algae Cultivated in Animal Wastewater Versus Traditional Soy Oil Pathways for Bio-Diesel Production Sheyda Chamaki, Oklahoma State University, Stillwater, OK (S. Chamaki, R.S. Frazier)
10:50AM	152189678	Simulation of Microwave Assisted Solar Vapour Absorption System for Sustainable Cold Chain Satyanarayan Dev, Florida A & M University, Tallahassee, FL, United States (S. Dev, A. Manickavasagan)
11:05AM	152180910	Impact of Mill Type on Biomass Milling Behavior Orla Williams, University of Nottingham, Nottingham, United Kingdom (O. Williams, C. Eastwick, D. Giddings, E. Lester, S. Lormor)
11:20AM	152171164	Examination of Cassava Peels Consortia and Power Generation in an MFC using Cassava Peels Ademola P. Adekunle, McGill University, Sainte Anne De Bellevue, Canada (A.P. Adekunle, V. Raghavan)

Wednesday, July 29 - 10:15AM-12:35PM

SESSION 326

TECHNO-ECONOMIC AND LIFE CYCLE ASSESSMENT OF BIOENERGY OF AGRICULTURAL SYSTEMS

- Sponsored by ES-220, PRS-280

Moderator: Robert Frazier, Oklahoma State University, Stillwater, OK

LOCATION: LA Galleries 1- 2nd Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152181005	On-farm Biodiesel Production in Vermont: A Decade of Learning Christopher W. Callahan, The University of Vermont, Rutland, VT (C.W. Callahan)
10:35AM	152181831	Assessment of the Predicted Biomass Production in the Billion Ton Study Update Daniela S. Gonzales, Texas A & M, College Station, TX (D.S. Gonzales, S. Searcy, L. Eaton)
10:50AM	152185833	Technoeconomic Analysis of Biodiesel and Ethanol Co-Production from Lipid Producing Sugarcane Haibo Huang, Department of Agricultural and Biological Engineering, University of Illinois at Urbana Champaign, Urbana, IL (H. Huang, S. Long, V. Singh)
11:05AM	152188615	An Attributional Life Cycle Assessment of Sugarcane, Energy cane, and Napier grass on the Island of Maui Allexander M. McDaniel, Oregon State University, Harrisburg, HI (A.M. McDaniel, G. Murthy, R. Ogoshi, A. Hashimoto)
11:20AM	152188884	Effect of weather and geographical location on the Environmental Impacts of Camelina biodiesel Seyed Mohammad Hossein Tabatabaie, Biological and Ecological Engineering, Oregon State University, Corvallis, OR (S. Tabatabaie, G.S. Murthy)

11:35AM	152189456	Techno-economic comparison of a centralized and distributed mobile pyrolysis system for conversion of hardwood Amit Kumar, University of Alberta, Edmonton, Canada (M. Patel, A. Kumar)
11:50AM	152190115	Emergy analysis of solid-state anaerobic digestion and liquid anaerobic digestion systems for bioenergy production and waste management Fuqing Xu, The Ohio State University, Wooster, OH (F. Xu, Y. Li)
12:05PM	152189788	Life cycle assessment of producing torrefied granules/pellets from southern pine Sudhagar Mani, University of Georgia, Athens, GA (S. Mani, Y. Wu)
12:20PM	152189821	Evolution of Palm Oil Mills into Bio-refineries: Technical and Environmental Assessment of Six Bio-refinery Options Manuel Garcia-Perez, Washington State University, Pullman, WA (J. Garcia-Nunez, M. Garcia-Perez)

Wednesday, July 29 - 10:15AM-12:15PM

SESSION 329

HYPERSPECTRAL IMAGING APPLICATIONS II: FRUITS AND VEGETABLES

- Sponsored by ITSC-330, PRS-701

Moderator: Bosoon Park, USDA, ARS, Athens, GA

LOCATION: LA Galleries 4- 2nd Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152181859	Detection of citrus black spot based on spectral and textural information using hyperspectral imaging technique Chuanqi Xie, Zhejiang University, Hangzhou, FL, China (C. Xie, W. Lee, Y. He)
10:35AM	152181190	Citrus black spot detection based on selected wavelengths using hyperspectral images Chuanyuan Zhao, University of Florida, Gainesville, FL, United States (C. Zhao, W. Lee, D. He)
10:50AM	152181843	Detection of apple Marssonina blotch disease using hyperspectral imaging Mubarakat Shuaibu, University of Florida, Gainesville, FL (M. Shuaibu, W. Lee, Y. Hong, S. Kim)
11:05AM	152186400	Moisture content measurement in dried apple produce through visible wavelength hyperspectral imaging Stuart Crichton, Newcastle University, Newcastle upon Tyne, United Kingdom (S. Crichton, B. Sturm, A. Hurlbert)
11:20AM	152189892	Non-destructive Detection of Internal Bruising of Blueberries using Hyperspectral Imaging Yu Jiang, University of Georgia, Athens, GA (Y. Jiang, C. Li)
11:35AM	152188479	Identifying Different Varieties of Kiwifruits Treated with Expanding Agent Using Near-Infrared Hyperspectral Reflectance Imaging Wenchuan Guo, Northwest A&F University, Yangling, China (D. Liu, W. Guo)
11:50AM	152147240	Nondestructive detection of chilling injury in cucumber fruit using hyperspectral imaging Haiyan Cen, Zhejiang University, Hangzhou, MI, China (H. Cen, R. Lu, F. Mendoza)

WEDNESDAY, JULY 29

Wednesday, July 29 - 10:15AM-12:30PM

SESSION 330

BIG DATA, DATA ANALYSIS AND APPS TO IMPROVE END-USER DECISION MAKING - Sponsored by ITSC-

254, ITSC-353, MS-54

Moderator: Matthew Harper, University of Wisconsin-Madison, Madison, WI

LOCATION: LA Galleries 6- 2nd Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152194448	Delivering Crop Production Information through the Alabama Crops Mobile Applications John Fulton, The Ohio State University, Columbus, OH (J. Fulton, E. Halverson)
10:35AM	152191283	AgroClimate Mobile Apps: Helping Growers Reduce Climate Risk in the Southeast USA Clyde Fraisse, University of Florida, Gainesville, FL (C. Fraisse, J. Andreis, N. Peres)
10:50AM	152154554	Design and implementation of an android app for estimating chlorophyll content of a corn leaf based on contact imaging Amy Kaleita, Iowa State University, Ames, IA (A. Kaleita, F. Vesali, M. Omid, H. Mobli)
11:05AM	152129937	Update on Systems-Based Logisticst Model for Eastern Redcedar Collin C. Craige, Oklahoma State University, Stillwater, OK (C.C. Craige, M.D. Buser, R.S. Frazier, S. Hiziroglu, R.B. Holcomb, R.L. Huhnke)
11:20AM	152181250	Spatial Suitability Analysis for Site Selection of Vineyards Golnaz Badr, Washington State University, Prosser, WA (G. Badr, G. Hoogenboom)
11:35AM	152189278	Improving farm management optimization: application of text data analysis and semantic networks Wei-Ting Liao, Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign, Urbana, IL (W. Liao, L. Rodriguez, J. Diesner, T. Lin)
11:50AM	152189779	Research and application of agricultural products anti-counterfeit and traceability system based on NFC Yunsheng Wang, Shanghai Academy of Agricultural Sciences, Shanghai, China (Y. Wang, J. Zhao, S. xu, Y. Liu)
12:05PM	152190892	Android Application for BIRD sensor data extraction and analysis with its extension for other sensors Rui Xu, University of Georgia, Athens, GA (J. Mahendran, R. Xu, C. Li)

Wednesday, July 29 - 7:30AM-10:00AM

SESSION 331

ITCS DIVISION POSTER SESSION -

Sponsored by ITSC division

Moderator: Ian Atkins, Univ of Wisconsin Madison, WI

LOCATION: Exhibit Hall- 2nd Floor

Poster #	Paper #	Title/Authors
1	152189517	Nonlinear Programming Model for Optimization of Cropping Patterns in Irrigated Agriculture Joao Saad, Sao Paulo State University - UNESP, Botucatu, Brazil (J. Saad, R.N. Monteiro)
2	152191070	Study on mechanical properties of kiwi fruit picking for humanoid end-effector Yingjun Pu, College of Mechanical and Electronic Engineering, Northwest A&F University, Yangling, China (Y. Pu, F. Yang, R. Ehsani)
3	152190342	Development of robust and vibration free impact-type sensors using MEMs technology Joe Mari J. Maja, Clemson University, Blackville, SC (J.J. Maja, A. Khalilian, A.D. Jayakaran)

4	152189584	REMOTE MONITORING OF GREENHOUSE Egbert Cruz Garcia, Universidad Autonoma Chapingo, Texcoco, Mexico (E. Cruz Garcia, F. Hahn)
5	152189741	The fuzzy control system based on embedded technology of greenhouse environmental parameters Yongjun Zheng, China Agricultural University, Beijing, China (L. Huang, Y. Zheng, Y. TAN, G. Wu, S. Li)
6	152189404	The good, the bad, and the ugly: A complete overview of a commercially available wireless sensor network for controlled environments. Chris Lund, Decagon Devices, Pullman, WA (I. Crawford, C. Lund, T. Martin, C. Chambers)
7	152188436	Ultrasonic method for cheese quality evaluation Istvan Kertesz, Corvinus University of Budapest, Budapest, Hungary (I. Kertesz, N. Simon, T. Kaszab, V. Zsom Muha, J. Felfoldi)
8	152189706	Research on Consumer Willingness on Buying Farm Product under Online To Offline Model- A Case Study on Supermarket in China Lei Guo, College of Engineering, China Agricultural University, Beijing, China (L. Zhen, D. Wang, L. Guo)
9	152190679	A Flight Monitoring System of Planting-Protection UAV Based on Django Ze Yang, China Agricultural University, Beijing, China (Z. Yang, L. Zheng, C. Mai, M. Li)
10	152190688	A Method of World Coordinates Calculation for Apple Fruits Based on Information Fusion Lihua Zheng, China Agricultural University, Beijing, China (C. Mai, L. Zheng, C. Xiao, Y. Chen, M. Li)
11	152190689	Soil Nitrogen Content Modeling Based on Spectral Analysis Lihua Zheng, China Agricultural University, Beijing, China (Y. Zhang, Y. Zhao, L. Zheng, M. Li)
12	152188208	The research of Seedling index model Based on image leaves area Jianping Hu, Jiangsu University, Zhenjiang, China (J. Hu, H. Shuo)
13	152181196	Prediction of poultry stunning level using computer vision system and BP neural network Xiao Sun, Nanjing Agricultural University, Nanjing, China (X. Sun, R. Kang, C. Ye, H. Li, K. Chen)
14	152183786	Study on Tilling Depth Detection Method Based on Attitude Measurement for Subsoiler Yanxin Yin, National Engineering Research Center for Information Technology in Agriculture, Beijing, China (Y. Yin, z. meng, h. mei, c. luo)
15	152158648	Kinematics and dynamics of fruit picking robotic manipulator John K. Schueller, University of Florida, Lakeland, FL (J. Zhang, J.K. Schueller)
16	152188991	Developing real-time detecting system for apple color and size based on ARM Min Huang, Jiangnan University, Wuxi, China (Z. Huang, Q. Zhu, M. Huang, G. Huang)
17	152183117	Development of a DSP based control system for a parallel tea-picking robot Yong Chen, Nanjing Forestry University, Nanjing, China (N. Lee, Y. Chen)
18	152183562	Analysis of the Formation Mechanism of Partial Condensation for the Stored Grain in Steel Squat Silo Jun Yin, Academy of State Administration of Grain, Xicheng District, China (J. Yin, Z. Wu, Z. Zhang, T. Wang, Z. Mao)
19	152189669	The prediction of nitrogen content of jujube leaves based on gray neural network optimized by particle swarm Wei Yang, Key Laboratory of Modern Precision Agriculture System Integration Research, China Agricultural University, Beijing, China (W. Yang, M. Li, L. ZHENG, H. Sun)
20	152188530	Influence of Depth and Downforce on Crop Establishment for Row-Crop Precision Planters Aurelie M. Poncet, Auburn University, Auburn, AL (A.M. Poncet, J. Fulton, T. McDonald, G. Pate, R. Bridges)

WEDNESDAY, JULY 29

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|----|-----------|--|----|-----------|---|
| 21 | 152188341 | An electrochemical immunosensor for detection of trace aflatoxin B1 in rice using portable impedance analyzer
Yanbin Li, College of Biosystems Engineering and Food Science, Zhejiang University, Hangzhou , AR, China (Z. Li, Z. Ye, Y. Fu, Y. Xiong, Y. Li) | 36 | 152179549 | Research on Detection of Vehicle Exhaust Gas Components based on Spectrum Technology
Chengshan Xu, College of Engineering, China Agricultural University, Beijing, China (C. Xu, M. Wang, F. Jiang, Y. Peng) |
| 22 | 152189819 | Application of Electronic Nose in Meat Detection
Yalei Wang, Three Gorges University, Yichang, China (Y. Wang, J. Wenshen) | 37 | 152188917 | Selection of Characteristic Wavelengths Using UVE-SPA and Qualitative Discrimination of Early Fungus-infected Maize Kernels Based on FT-NIR
Wei Wang, China Agricultural University, Beijing, China (Y. Yuan, W. Wang, H. Zheng, X. Chu, M. Xi) |
| 23 | 152188827 | Advancements of Near-infrared Spectroscopy's Applications in Meat Inspection
Haiyan Luo, College of Information and Electrical Engineering Shenyang Agricultural University, Shenyang, China (H. Luo, J. Wenshen, y. yang) | 38 | 152188919 | Image restoration for moving captured multi-spectral image of winter wheat canopy
Hong Sun, China Agricultural University, Beijing, China (Y. Wen, H. Sun, M. Li, Y. Zhao, H. Liu, Y. Song) |
| 24 | 152189211 | Development of a Biosystems Heat and Mass Transfer Course with Computational Fluid Dynamics Projects
Jessica Drewry, University of Wisconsin, Madison, WI (J. Drewry, Y. Liang, M. Mondaca, M.K. Harper, C.Y. Choi) | 39 | 152188942 | Detection of crop growth index based on image segmentation
Hong Sun, China Agricultural University, Beijing, China (H. Sun, Y. Song, Y. Wen, M. Li, Y. Zhao, Y. Zhang) |
| 25 | 152189131 | Waveband selection and image analysis to distinguish fecal matter contamination on leaf greens using hyperspectral fluorescence imaging
Colm D. Everard, University College Dublin, Dublin, Ireland (C.D. Everard, M. Kim, H. Lee) | 40 | 152188946 | Discussion on the vehicle-mounted NDVI detector application condition
Minzan Li, China Agricultural University, Beijing, China (L. Wu, Y. Zhao, M. Li, H. Sun, M. Zhang, W. Yang, X. Chen) |
| 26 | 152188999 | Model updating strategy for classification of maize seeds using hyperspectral imaging
Min Huang, Jiangnan University, Wuxi, China (J. Tang, M. Huang, Q. Zhu, G. Huang) | 41 | 152188949 | The Influence of Crop Chlorophyll Distribution in Crop Canopy Spectrum Analysis and Application
Minzan Li, China Agricultural University, Beijing, China (X. Mi, X. Pei, M. Li, H. Sun, L. ZHENG, W. Yang) |
| 27 | 152190366 | Application of hyperspectral imaging to prevent fungal infections of white button mushroom
Istvan Kertesz, Corvinus University of Budapest, Budapest, Hungary (V. Parrag, I. Kertesz, J. Felfoldi, A. Geösel, F. Firtha) | 42 | 152188954 | Development of NDVI Measurement Device Based on Active Light Source
Minzan Li, China Agricultural University, Beijing, China (M. Zhang, Q. Zhang, M. Li, H. Sun, X. Pei, X. Mi, L. ZHENG) |
| 28 | 152150680 | Detecting Marssonina Blotch Using Hyperspectral Imaging and Hierarchical Clustering
Won Suk Lee, University of Florida, Gainesville, FL (B.B. Posadas, W. Lee, Y. Hong, S. Kim) | 43 | 152189619 | Identification of main meat species based on spectral characteristics
Yankun Peng, China Agricultural University, Beijing, China (L. Qiao, Y. Peng, W. Wei, C. Li) |
| 29 | 152189624 | Lightweight portable nondestructive detection technique for assessing meat freshness attributes based on light emitting diode array
Yankun Peng, China Agricultural University, Beijing, China (W. Wei, Y. Peng, Y. Li, L. Qiao) | 43 | 152188957 | Development of a spectral measurement system for crop detection
Minzan Li, China Agricultural University, Beijing, China (H. Sun, M. Zhang, X. Pei, Y. Wen, Y. Zhao, M. Li, W. Yang) |
| 30 | 152190975 | Refining Drainage Decisions Using Mobile Apps—A Case Study
Samuel Noel, Purdue University, Lafayette, IN (S. Noel, A. Ault, D. Buckmaster, J. Krogmeier) | 44 | 152188959 | Crop growth measurement using spectral data
Minzan Li, China Agricultural University, Beijing, China (X. Pei, H. Sun, Y. Wen, M. Li, L. ZHENG, W. Yang) |
| 31 | 152189922 | Sensitivity Analysis Techniques for Evaluating Costs in an Online Bio-feedstock Supply Chain Model
Collin C. Craige, Oklahoma State University, Stillwater, OK (C.C. Craige, M.D. Buser, R.S. Frazier, S. Hiziroglu, R. Holcomb, R. huhnke) | 45 | 152189658 | A nondestructive detection method of multi-quality parameters of beef by visible/near-infrared spectroscopy
Yankun Peng, China Agricultural University, Beijing, China (X. Zheng, Y. Peng, Y. Li, A. Abbas) |
| 32 | 152190314 | Phone based Method of Quality Evaluation and Area Calculation for Deep Tillage in Tianjin
Caicong Wu, College of Information and Electrical Engineering, China Agricultural University, Beijing, TX, China (C. Wu, J. Wang, L. Zhou, J. Zhao, Y. Cai, Y. Yuan) | 46 | 152190431 | The model of spraying droplets distribution based on Laser sensors
Yubin Lan, South China Agricultural University, Guangzhou, China (Y. Zheng, S. Yang, D. Le, Y. Tan, C. Zhao, L. Chen, Y. Lan, S. Wang) |
| 33 | 152175533 | Determination method of beef quality with multi parameters
Dongxiang Yan, College of Engineering, China Agricultural University, Beijing, China (D. Yan, Y. Li, F. Jiang, Y. Peng) | 47 | 152190492 | Estimation of soil TN content with a portable soil detector based on NIRS
Xiaofei An, Beijing Research Center for Information Technology in Agriculture, Beijing, China (X. An, z. meng, G. Wu, J. Guo, Y. Yin) |
| 34 | 152189142 | Analysis of hyperspectral scattering characteristics for predicting the bruise susceptibility of apple
Min Huang, Jiangnan University, Wuxi, China (J. Guan, Q. Zhu, M. Huang) | 48 | 152190801 | Research imagery and spectral characteristics of rice sheath blight using three portable sensors
Dongyan Zhang, Beijing Research Center for Information Technology in Agriculture, Beijing, TX, China (D. Zhang, Y. Lan, S. Zhou, S.C. Murray, L. Chen) |
| 35 | 152187806 | Potential of near infrared spectroscopy in cotton micronaire determination
Yongliang Liu, USDA, ARS, Cotton Structure & Quality Research, New orleans, LA (Y. Liu, C. Delhom, T. Campbell, V. Martin) | 49 | 152191013 | Development of a portable optical sensor system based on ARM
Minzan Li, Key Laboratory of Modern Precision Agriculture System Integration Research, China Agricultural University, Beijing, China (X. Pei, H. Sun, Y. Zhao, M. Zhang, M. Li, L. Zheng, W. Yang) |

WEDNESDAY, JULY 29

50	152183802	Non-Destructive Method for Oil Content and Moisture Content Prediction in Oil Palm Fruitlets Using Electrical Impedance Spectroscopy Samsuzana Abd Aziz, Universiti Putra Malaysia, Selangor, Malaysia (S. Abd Aziz, N. Chin Hashim, A. Mohamed Shariff)
51	152162399	Terahertz Time-Domain Spectroscopy to Discriminate among Water Contamination Levels in Diesel Engine Oil Ali M. Abdul-Munaim, Southern Illinois University, Carbondale, IL, United States (A.M. Abdul-Munaim, M. Reuter, O.M. Abdulmunem, J.C. Balzer, M. Koch, D.G. Watson)
52	152189790	Development of Soil Heavy Metal Detector Based on XRF Technology Jia Wenshen, Department of Beijing Research Center for Agricultural Standards and Testing, Beijing Academy of Agriculture and Forestry Science, Beijing, China (J. Wenshen, L. Pan, Y. Wang, j. Wang)
53	152190697	Ion mobility spectrometry based volatile sensing for integrated postharvest potato rot management Lav R. Khot, Washington State University, Pullman, WA (L.R. Khot, H. Bahlol, B. Schroeder, N. Olsen)
54	152188982	Discrimination of the Varieties of Walnut based on Mid-infrared Spectroscopy and Multi-variable Analysis Methods Fei Liu, College of Biosystems Engineering and Food Science, Hangzhou, China (F. Liu, J. Peng, L. Feng, C. Zhang, Y. He)
55	152221249	Biophysical Response of Young Pomegranate Tree to Different Rates of Irrigation and Irrigation Systems Huihui Zhang, USDA ARS Water Management Research, Fort Collins, CO (H. Zhang)
56	152246054	Evaluation of viral infection in potatoes using proximal and remote sensing techniques Jianfeng Zhou, Washington State University, Pullman, WA (L.R. Khot, J. Zhou, S. Sankaran, V. Sathuvalli)
57	152300126	Non-Destructive Detection Method for Egg Freshness Based on LLE-SVR and Visible/Near-Infrared Spectrum Qiaohua Wang, Huazhong Agricultural University, Hubei, Chad (Q. Wang)
58	152339683	Mobile Paper-Based Water Quality Monitoring via Smartphones Jeong-Yeol Yoon, University of Arizona, Tucson, AZ (J. Yoon)

Wednesday, July 29 - 10:15AM-12:15PM

SESSION 332

UNMANNED AIRCRAFT SYSTEMS IN AGRICULTURE - Sponsored by MS-54

Moderator: Charles Malveaux, Louisiana State University, Baton Rouge, LA

LOCATION: Balcony J- 4th Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152189322	UAVs in Agriculture: Issues and Concerns Paul Weckler, Oklahoma State University, Stillwater, OK (P. Weckler, N. Wang, J. Jacob, J. Kidd)
10:35AM	152147654	Conducting Unmanned Aircraft Flight Operations Under Federal Aviation Administration Regulations Wayne Woldt, University of Nebraska-Lincoln, Lincoln, NE (W. Woldt, E. Frew, M. Stachura, J. Smith, J. Mack)
10:50AM	152154015	The Gartner Hype Cycle: Its Application to Domestic and International Agricultural Unmanned Aerial Systems Robert Freeland, Univ of Tenn, Knoxville, TN (R. Freeland, P.K. Freeman)

11:05AM	152190195	Flight Characteristics of Fixed Wing Unmanned Aircraft System for Aerial Surveillance of Agricultural Systems Wayne Woldt, University of Nebraska-Lincoln, Lincoln, NE (W. Woldt, E. Frew, G. Meyer, R.P. Freiburger, M. Stachura)
11:20AM		Break
11:30AM	152189226	Aerial Imaging from a UAV in Support of Nitrogen Rate Studies at the University of Maryland Eastern Shore. Christopher Hartman, University of Maryland Eastern Shore, Princess Anne, MD (C. Hartman, A. Nagchaudhuri, C. Daughtry, M. Mitra)
11:45AM	152189403	Insect Density Mapping in Citrus Orchards Using UAV platform Yeyin Shi, University of Florida, Lake Alfred, FL (Y. Shi, Y. Shi, Z. Jia, R. Ehsani, M.E. Rogers)
12:00PM	152183775	Use of an UAV for Biomass Monitoring of Hairy Vetch Heesup Yun, Department of Biosystems & Biomaterials Science and Engineering, Seoul National University, Seoul, Korea (the Republic of) (H. Yun, H. Kim, K. Park, K. Lee, S. Hong)

Wednesday, July 29 - 10:15AM-12:35PM

SESSION 333

MANURE MANAGEMENT AND AIR QUALITY - Sponsored by NRES-27

Moderator: Victor Johnson, Johnson Ag Consulting, Spruce Pine, AL

LOCATION: Mardi Gras B- 3rd Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152163934	Comparing different manure management practices in dairy farms of Wisconsin Horacio A. Aguirre-Villegas, University of Wisconsin-Madison, Madison, WI (H.A. Aguirre-Villegas, R. Larson)
10:35AM	152190063	Sequential and total effect of traditional and emerging manure treatment processes on dairy farm: gaseous emission and nutrient fate Tariq M. Khalil, Washington State University, Pullman, WA (T.M. Khalil, B. Carlson, R. Nelson, N. Uslar, T. Ewing, C. Frear, C. Stockle)
10:50AM	152190156	Gas Reduction Benefits from Storage to Application of Anaerobic Digestion and Solid-liquid Separation of Dairy Manure Michael Holly, University of Wisconsin - Madison, Madison, WI (M. Holly)
11:05AM	152182514	Hydrogen sulfide release from dairy manure storages containing gypsum bedding Michael L. Hile, Penn State University, University Park, PA (M.L. Hile, E. Fabian, H. Elliott, R. Brandt, D. Murphy, C.A. Rotz, R. Bryant, D. Hill)
11:20AM	152182471	Humic manure additive reduces odor from Pennsylvania swine finishing operation Michael L. Hile, Penn State University, University Park, PA (M.L. Hile, E. Fabian, R. Brandt, H. Elliott)
11:35AM	152189422	A New Application Method of ZnO Nanoparticles in Livestock Manure to Reduce Gaseous Emissions Dhan P. Gautm, NDSU, Fargo, ND (D.P. Gautm, S. Rahman, A.N. Bezbaruah)
11:50PM	152189332	Mitigation of Air Emissions from Swine Buildings through the Photocatalytic Technology Using UV/TiO2 Zifei Liu, Kansas State University, Manhattan, KS (Z. Liu, J.P. Murphy, R. Maghirang, J. DeRouche)
12:05PM	152182493	Reducing odor emissions using subsurface litter application technology Michael L. Hile, Penn State University, University Park, PA (M.L. Hile, E. Fabian, R. Brandt, H. Elliott, P. Kleinman, A. Allen, F. Hashem, N. Chepketer)

WEDNESDAY, JULY 29

12:20PM 152190993 Improvement to Air Management Practices Assessment Tool (AMPAT): Scientific Literature Database
Jacek A. Koziel, Iowa State University, Ames, IA (J.A. Koziel, D. Maurer, J. Harmon, S.J. Hoff, A. Rieck-Hinz, D. Andersen)

Wednesday, July 29 - 8:30AM-12:00PM

SESSION 334

DENITRIFYING BIOREACTORS: NITRATE-N REDUCTIONS, P EFFECTS, MICROBIAL ASPECTS - Sponsored by NRES-23

Moderator: Gary Feyereisen, USDA-ARS-SWMRU, St. Paul, MN

LOCATION: Galvez- 5th Floor

Time	Paper #	Title/Authors
8:30AM		Introduction
8:35AM	152267013	Reducing Uncertainty in Bioreactor Design. Richard Cooke, Univ of Illinois, Urbana, IL (R. Cooke)
8:55AM	152157277	Improving denitrifying bioreactor performance by adding a post-bed processing chamber Gary W. Feyereisen, USDA-ARS-SWMRU, St. Paul, MN (G.W. Feyereisen, L. Christianson, T. Moorman, R.T. Venterea)
9:10AM	152190051	Evaluation of Woodchip Bioreactors for Improved Water Quality Michelle L. Soupir, Iowa State University, Ames, IA (M.L. Soupir, N.L. Hoover, T. Moorman, C. Jones, K. Kult)
9:25AM	152267018	When good bioreactors go bad... and what we can do about it Laura Christianson, The Conservation Fund, Shepherdstown, WV (L. Christianson)
9:45AM	152189323	Evaluating woodchip properties in a denitrification bed Ehsan Ghane, University of Minnesota, Saint Paul, MN (E. Ghane, G.W. Feyereisen)
10:00AM	152188727	Evaluation of Phosphorus Filter Media for an In-Line Tile Drainage Treatment System Joseph Sanford, UW-Madison, Madison, WI (J. Sanford, R. Larson)
10:15AM		Break
10:25AM	152267023	Biochar Enhanced Nitrate and Phosphate Removal in a Denitrifying Bioreactor Zachary Easton, Virginia Tech, Blacksburg, VA (E. Bock, M. Davis, Z. Easton)
10:45AM	152156408	Nutrient Removal from Agricultural Subsurface Drainage Using Denitrification Bioreactors and Phosphate Adsorbents Morgan Salo, South Dakota State University, Brookings, SD (M. Salo, G. Hua, C. Schmit, C. Hay)
11:00AM	152267025	Microbial Ecology and Function in Denitrification Bioreactors Thomas Moorman, USDAARS, Ames, IA (T. Moorman)
11:20AM	152188026	Trace Gas Emissions from Denitrifying Bioreactors: Lab and Field Scales Will Pfluer, Cornell, Ithaca, NY (W. Pfluer, L. Geohring, M.T. Walter)

Wednesday, July 29 - 10:15AM-12:30PM

SESSION 335

IMPROVING IRRIGATION THROUGH EDUCATION AND TECHNOLOGY -

Sponsored by NRES-24, NRES-241, NRES-242, NRES-244, NRES-245, NRES-246

Moderators: Freddie Lamm, Northwest Res Ext Center, Colby, KS and Dan Rogers, Kansas State University,

LOCATION: Bacchus- 4th Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152189115	Educating Farmers on the Benefits of LESA and LEPA Center Pivot Irrigation Charles Swanson, Texas A&M Agrilife Extension Service, College Station, TX (C. Swanson, G. Fipps)
10:35AM	152189135	Development of an Efficient Irrigation and Leaching Control System Steven Hall, LSU, Baton Rouge, LA (D.D. Smith, J. Beasley, S.L. Davis, M. Thiessen, D. Bordelon, S. Hall)
10:50AM	152188414	Sugar Cane Productivity Under Drip Irrigation in Brazil : Varieties, Irrigation Depths and Ripening Processes Rubens D. Coelho, University of Sao Paulo, Piracicaba, Brazil (R.D. Coelho, F.d. Barbosa, D.P. Leal, L.d. Santos, E.F. Fraga Junior, T.H. Barros, J.V. Lizcano, D.L. Martin)
11:05AM	152192209	Potential and Limitations of Treated Wastewater Irrigation in the Middle East and North Africa Anne E. Dare, Purdue University, West Lafayette, IN (A.E. Dare, R. Mohtar)
11:20AM		Break
11:30AM	152189070	Design and Construction of a Prototype Automatic Irrigation Control System John O. Ohu, Univ of Maiduguri, Maiduguri, Nigeria (J.O. Ohu, E. Mamman, S.M. Shettima)
11:45AM	152189255	Performance of Soil Moisture Sensors in Coarse- and Fine-Textured Soils Yan Zhu, University of Nebraska-Lincoln, Lincoln, NE (Y. Zhu, S. Irmak, A.V. Diotto)
12:00PM	152188849	Design, Construction and Operation of Modest Office Plate Flow-Meter for Irrigation Wells Yessica A. Gomez Perez, Agricultural Engineering and Integrated Use of Water, Chapingo Autonomous University, Texcoco, Mexico (Y.A. Gomez Perez, M.G. Carrillo, E. Jimenez, S. Del Valle, M. Vazquez)
12:15PM	152189537	Experiment study on the effects of the Drive Vane of Vertical Impact Sprinkler on Sprinkler Performance Pan Tang, Jiangsu University, Zhenjiang, China (P. Tang, H. Li, C. Chen, C. Zou, Y. JIANG)

Wednesday, July 29 - 10:15AM-1:00PM

SESSION 336

GLOBAL APPLICATIONS OF ECOLOGICAL ENGINEERING -

Sponsored by NRES-261

Moderator: Scott Osborn, Univ of Arkansas

LOCATION: Balcony K- 4th Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152190950	Life in the Balance: Enhancement of ecological engineering curriculum with the balanced aquarium concept David M. Bliersch, Auburn University, Auburn University, AL (D.M. Bliersch)

WEDNESDAY, JULY 29

10:35AM	152189469	Participatory development of agroecosystem network models for agricultural pest management in smallholder communities Marcela Rojas Díaz, Université McGill, Sainte-Anne-de-Bellevue, Canada (J.J. Malard, M. Rojas Díaz, J. Adamowski, J. Gálvez, J. Carrera, H. Monardes, H. Melgar-Quirón)
10:50AM	152188356	Decision Support Tool for Greywater Reuse at Residential Scale Shashi Kant, Texas A&M, Houston, TX (S. Kant, F. Jaber, R. Karthikeyan)
11:05AM	152189219	Design Optimization of Bioseparator for Removal of Petroleum Hydrocarbons from Stormwater Runoff Michelle A. Melone, Oklahoma State University, Stillwater, OK (M.A. Melone, J. Vogel, G. Brown)
11:20AM	152190954	Design of 3D printed substrata to enhance periphytic community colonization and productivity David M. Biersch, Auburn University, Auburn, AL (D.M. Biersch, A. Carrano, K. Kardel, M. Kaur)
11:35AM	152187507	Assessment of Typha angustifolia for Biomass Production and Water Quality Improvement Jaime Thissen, University of Illinois Urbana-Champaign, Urbana, IL (J. Thissen, D. Davidson)
11:50AM	152192694	Current and Future Groundwater Withdrawals in Semi-arid South India: Effects and Management Options Rajendra P. Sishodia, University of Florida, Gainesville, FL (R.P. Sishodia, S. Shukla, J.W. Jones, W.D. Graham)
12:05PM	152190157	Nigerian "Pure water" production and supply system: Necessity for Reengineering Kayode J. Simonyan, Michael Okpara University of Agriculture, Umuahia, Nigeria (I. Dunmade, K.J. Simonyan)
12:20PM	152188574	Soil Strength Properties of Some Contaminated Lands in Rivers State, Nigeria. John O. Ohu, Univ of Maiduguri, Maiduguri, Nigeria (J.O. Ohu, M.I. Fubara, R. Jumbo, E. Mamman)
12:35PM	152189521	Use of a Low Cost Solar Food Dryer in Coriander Seeds Dehydration Ilda d. Tinôco, Universidade Federal de Viçosa, Viçosa, Brazil (R.B. Vigoderis, I.d. Tinôco, B.A. Dos Santos, D.d. Cordeiro, L.F. Tschoeke, P.H. Barros, D.F. Ferreira, J.P. Souza Júnior)

Wednesday, July 29 - 10:15AM-1:00PM

SESSION 337

CLIMATE VARIABILITY AND CHANGE IMPACTS ON AGRICULTURE, WATER AND NATURAL RESOURCES - PART 2 -

Sponsored by NRES-21

Moderator: Joel Paz, Mississippi State University, Mississippi State, MS

LOCATION: Regent- 4th Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152189321	On the influence of hydrology and climate on harmful algal blooms in Lake Erie Noel R. Aloysisius, Ohio State University, Columbus, OH (N.R. Aloysisius, J. Martin, S. Ludsins)
10:35AM	152190913	Quantifying Hydrological Responses to Major Land Cover Changes: A Case Study in Smoky Hill River Watershed in Western Kansas Jungang Gao, Kansas State University, Manhattan, KS (J. Gao, A.Y. Sheshukov)
10:50AM	152153873	Modeling the Impact of Global Climate Change Scenarios on Maumee River Flow and Nutrient Content Andreas Culbertson, The Ohio State University, Columbus, OH (A. Culbertson, J. Martin, S. Ludsins, N.R. Aloysisius)

11:05AM	152189577	Quantification and propagation of climatic and human impacts on streamflow Dongjun Lee, Kangwon National University in South Korea, Chuncheon-si, Korea (D. Lee, D. Kum, A. Risal, J. Yang, J. Lee, Y. Park, D. Kong, K. Lim, Y. Jung)
11:20AM	152190127	Quantifying the Effects of Future Climate Conditions on Runoff, Sediment and Chemical Losses for Different Watershed Sizes Carlington W. Wallace, Purdue University, Lafayette, IN (C.W. Wallace, D. Flanagan, B. Engel)
11:35AM	152190868	Data to Decision: Mid-Atlantic regional and watershed scale climate impact assessment Venkat Sridhar, Virginia Polytechnic Institute and State University, Blacksburg, VA (V. Sridhar, P. Valayamkunnath, H. Kang, M. Billah, C.H. Seong)
11:50AM	152190884	Sustainable management of freshwater resources in the Nueces River Basin, South Texas, under climate change and population growth Jae-Hyung Ji, Texas A&M University - Kingsville, Kingsville, TX (J. Ji, T. Sinha)
12:05PM	152189618	Simulated Effects of Groundwater Pumpage during Droughts on Stream-Aquifer Flow and Federally Protected Mussel Species Residing in the Lower ACF River Basin Sarmistha Singh, Auburn University, Auburn, AL (S. Singh, P. Srivastava, S. Mitra)
12:20PM	152189968	Trends and variability of Canada's streamflow in relation to ENSO, NAO and PDO indices Deasy Nalley, McGill University, Montreal, Canada (D. Nalley, J. Adamowski, A. Biswas, D. Khalil)
12:35PM	152190836	Estimating the impact of climate change on streamflow in Bagmati watershed, Nepal Vaskar Dahal, University of Illinois, Urbana, IL (V. Dahal, R. Bhattarai, N.M. Shakya, R. Talchabhadel, S. Dugar)

Wednesday, July 29 - 10:15AM-12:30PM

SESSION 338

INNOVATIVE HYDROLOGY AND WATER QUALITY MONITORING -

Sponsored by NRES-21

Moderator: Francois Birgand, North Carolina State University, Raleigh, NC

LOCATION: Mardi Gras F- 3rd Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152153825	Evaluating best management practice efficiency through on-farm demonstrations Heidi Peterson, Minnesota Department of Agriculture, St. Paul, MN (H. Peterson, K. Kuehner, M. Wagner, J. Kjaersgaard, K. Rassmussen, S. Matteson, M.J. Ribikawskis)
10:35AM	152185816	Aquifer nitrate legacy and dynamics: observations from well nests and streambed sampling Troy E. Gilmore, North Carolina State University, Raleigh, NC (T.E. Gilmore, D. Genereux, D. Solomon, K. Farrell, H. Mitasova)
10:50AM	152189101	Quantifying in-stream water quality trends using continuous monitoring data in a piedmont region river Debabrata Sahoo, Woolpert Inc, West Columbia, SC (D. Sahoo, F. Ellerbe, Z. Smoot, J. Riddle, J. Wortkoetter)
11:05AM	152189364	Where is Nitrate Going in Restored Wetlands? A 15N Tracer Evaluation of the Impact of Nitrate Load and Soil Type on Nitrogen Cycling in Restored Wetlands Tiffany Messer, North Carolina State University, Raleigh, NC (T. Messer, M. Burchell)

WEDNESDAY, JULY 29

11:20AM	152190108	A hillslope-scale investigation of phosphorus transport by overland and subsurface flow pathways Jasmeet Lamba, Pennsylvania State University, University Park, PA (J. Lamba, P. Kleinman, R. Bryant, P. Drohan, G. Folmar, D. DeWalle, L. Vitko, A. Buda)
11:35AM	152190710	Application of a Combination of Optical Water Quality Monitoring Techniques to Evaluate the Effects of Switchgrass Intercropping in a Managed Loblolly Pine Forest in Eastern North Carolina Elizabeth Allen, North Carolina State University, Raleigh, NC (E. Allen, F. Birgand, G. Chescheir, R.W. Skaggs, C. Osburn, J. Etheridge)
11:50AM	152189642	Water quality rating curves: is this for real? Francois Birgand, North Carolina State University, Raleigh, NC (F. Birgand, K. Aveni-Deforge, b. Allen, N. Dobbs, C. Lin, C. Carey, B. Maxwell, T. Messer)
12:05PM	152189772	Nitrogen Abatement in Streams - An In-Situ Mesocosm Study Quantifying and Characterizing Nitrogen Removal in a Coastal Stream Bryan Maxwell, NCSU, Raleigh, NC (B. Maxwell, F. Birgand, K. Aveni-Deforge)

Wednesday, July 29 – 10:15AM-12:30PM

SESSION 339

MODELING BIOLOGICAL PROCESSES – Sponsored by NRES-261

Moderator: Israel Dunmade, Mount Royal Univ

LOCATION: Mardi Gras H

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152181741	Atmospheric Gene Flow from Herbicide-resistant Horseweed Outcrossing Junming Wang, University of Illinois, Champaign, IL (M. Qi, H. Huang, R. Ye, X. Li, D. Miller, D. DuBois, J. Wang, C. Stewart)
10:35AM	152189996	Road Construction and Dynamics of Vegetation Structure: The Importance of Biophysical and Socio-Economic Variables According to Road Paving Progress Geraldine Klarenberg, University of Florida, Gainesville, FL (G. Klarenberg, R. Munoz-Carpena, S. Perz, G.A. Kiker, J. Southworth)
10:50AM	152190131	Development of Novel Dose-Response Models for Plant Pathogens within the Quantitative Microbial Risk Assessment (QMRA) Framework Jade Mitchell, Michigan State University, East Lansing, MI (A.B. Herzog, K.J. Dean, J. Mitchell)
11:05AM	152190490	Environmental Life Cycle Assessment of Bioplastic Plant Containers Cindu Annand, Iowa State University, Ames, IA (M. Montalbo-Lomboy, J. Schrader, C. Annand, C. Currey, W. Graves, D. Grewell)
11:20AM	152190748	A Functional-Structural Model to Understand Apple Tree Growth and Development Ying-Tsui Wang, Washington State University, Pullman, WA (Y-T Wang, G. Hoogenboom)

Wednesday, July 29 - 10:15AM-12:45PM

SESSION 340

SUSTAINABILITY OF AGRICULTURAL LAND USE; ASSESSMENTS, CONCEPTS AND ADVANCES -

Sponsored by NRES-26

Moderator: Yongping Yuan, USEPA, Las Vegas, NV

LOCATION: Bonaparte- 4th Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152143549	Light Condition Based Analysis of Microclimate Parameters for Improvement of Closed-Field Tomato Production in Tropical lowlands Wan Ishak Wan Ismail, Universiti Putra Malaysia, Serdang Selangor, Malaysia (R. Shamshiri, W. Wan Ismail, H.B. Che Man, D.B. Ahmad)
10:35AM	152187058	Assessing The Impact of Manure Broadcast and Shallow Disk Injection Application Methods on The Fate and Transport of Hormones in Surface Runoff Odette Mina, Penn State University, Reading, PA (O. Mina, H.E. Gall, L. Saporito)
10:50AM	152188185	Adaptability Factors for Open-field Tomato Production in East and West of Malaysia Wan Ishak Wan Ismail, Universiti Putra Malaysia, Serdang Selangor, Malaysia (W. Wan Ismail, R. Shamshiri, D.B. Ahmad, R.B. Janius)
11:05AM	152189490	Use of participatory system dynamics modelling to assess the sustainability of smallholder agriculture Marcela Rojas Días, Université McGill, Sainte-Anne-de-Bellevue, Canada (J.J. Malard, J. Adamowski, M. Rojas Días, J. Carrera, J. Gálvez, H. Monardes, H. Melgar-Quirñonez)
11:20AM	152189955	The evaluation of greenhouse gas flux from agricultural soils under a sprinkler irrigation system. Kaitlin Lloyd, McGill University, St-Lazare, Canada (K. Lloyd)
11:35AM	152189956	Evaluation of soil greenhouse gas fluxes for grain-corn under different drainage water management systems Cynthia Creze, McGill University, Montreal, Canada (C. Creze, C. Madramootoo)
11:50AM	152189887	Effects of gypsum and sugarbeet spent-lime application on the hydraulic properties of subsurface drained saline-sodic soils. Anthony W. Wamono, North Dakota State University, Fargo, ND (A.W. Wamono, D.D. Steele, Z. Lin, x. jia, T. DeSutter)
12:05PM	152190927	Watershed scale analysis to develop strategies for environmentally sustainable corn stover removal for biofuel production in Indiana Raj Cibi, Purdue University, West Lafayette, IN (R. Cibi, I. Chaubey, B.M. Gramig)
12:20PM	152191058	Development of a web-based interface for simulating alternative conservation practices using APEX Naresh Pai, Stone Environmental, Inc., Montpelier, VT (M.F. Winchell, B. Patterson, N. Floersch, S. Raghavan, K. Potter, N. Pai, E. Steglich)

WEDNESDAY, JULY 29

Wednesday, July 29 - 10:15AM-12:30PM

SESSION 341

ADVANCES IN MODEL CALIBRATION AND VALIDATION - Sponsored by

NRES-21, NRES-224, NRES-225, NRES-23, NRES-26

Moderator: Claire Baffaut, USDA ARS, Columbia, MO

LOCATION: Mardi Gras A- 3rd Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152147453	Experiences in High Performance Computing Used to Characterize Maize Phenology Kelly R. Thorp, USDA-ARS, Maricopa, AZ (K.R. Thorp, S. Welch, A. Lamsal, J. White, J. Holland)
10:35AM	152180846	NEXRAD data (radar-based multi-sensor precipitation estimates) application to runoff routing using a hybrid hydrologic model (Distributed-Clark) Younghyun Cho, Purdue University, West Lafayette, IN, United States (Y. Cho, B. Engel)
10:50AM	152182407	Recurrent Neural Network for forecasting water quality parameters: Sensitivity Analysis. Natalia V. Shim, University of Georgia, Athens, GA (N.V. Shim, E. Tollner)
11:05AM	152189328	An Open-Source Java-Based Toolbox for Environmental Model Evaluation: The MOUSE Software Application James C. Ascough, USDA-ARS, ASRU, Fort Collins, CO (J.C. Ascough, C. Fischer, N.P. Lighthart, O. David, S. Kralisch)
11:20AM	152151725	Effect of Input Data Spatial Resolution on Output and Calibration of Standard and Grid-based SWAT Model Simulations Garett Pignotti, Purdue University, West Lafayette, IN (G. Pignotti, H. Rathjens, C. Raj, V. Vema, I. Chaubey, M. Crawford)
11:35AM	152181884	Global sensitivity analysis of the Watershed Assessment Model (WAM) Yogesh Khare, University of Florida, Gainesville, FL (Y. Khare, C. Martinez, R. Munoz-Carpena, A. Bottcher, A. James)
11:50AM	152187834	Assessing model parameter sensitivity and uncertainty of streamflow, sediment, and nutrient predictions in an agricultural watershed using SWAT Abdullah O. Dakhalla, Mississippi State University, Starkville, MS (A.O. Dakhalla, P.B. Parajuli)
12:05PM	152180669	A Farm Pond Water Irrigation Management System in Mid-South United States Gary Feng, USDA-ARS, Starkville, MS (G. Feng)

Wednesday, July 29 - 10:15AM-12:45PM

SESSION 342

PLANT, ANIMAL, AND FACILITY SYSTEMS POSTER SESSION -

Sponsored by PAFS-06

Moderator: Laura Pepple, Univ of Illinois

LOCATION: Exhibit Hall- 2nd Floor

Poster #	Paper #	Title/Authors
1	152183571	Automatic recognition vision method guided for biology monitoring robot Tengfei Li, China Agricultural University, Beijing, China (T. Li, H. Li, H. Wang, B. Li)
2	152183840	Preliminary Study of Animal House Environmental Condition Assessment Basing on CFD Analog Simulation Tengfei Li, China Agricultural University, Beijing, China (F. Hao, h. li, J. Zhao, r. huang, H. Wang, F. Peng, T. Li)

3	152189411	Influence of Group Size and Space Allowance on Performance and Behavior of the Weaned Piglets Chaoyuan Wang, Department of Agricultural Structure and Bioenvironmental Engineering, China Agricultural University, Beijing, China (B. Hu, Z. Shi, B. Li, L. Ding, Z. Liu, B. Lin, C. Wang)
4	152190171	Modifications to an Environmental Preference Test Approach and Results of Preliminary Study for Assessing Aversion to Atmospheric Ammonia Angela R. Green, university of illinois, Champaign, IL (C. Lyvers, A.R. Green, R. Gates)
5	152190630	Analysis of Behavioural Patterns in Broilers Using Camera-Based Technology Alberto Pena Fernandez, KU Leuven, Leuven, Belgium (A. Pena Fernandez, V. Exadaktylos, E. Vranken, D. Berckmans)
6	152189679	Temperature rectal and respiratory rate of piglets through body surface temperature Késia O. Silva Miranda, "Luiz de Queiroz" College of Agriculture (ESALQ/USP), Piracicaba, Brazil (G. Mostaço, K.O. Silva Miranda)
7	152173829	Mortality of Laying Hens Associated with the Failure of Electricity Supply in an Acclimated Shed and in a Non-Acclimated One Danilo F. Pereira, Unesp, Tupa, Brazil (D.F. Pereira, V. Kodaira, L.G. Bueno, N.M. Soares, D.D. Salgado, A.J. Lelis)
8	152184813	Analysis of thermal environment and ventilation rate of duck house in summer season using CFD technique Uk-hyeon Yeo, Seoul National University, Seoul, Korea (the Republic of) (U. Yeo, I. Lee)
9	152187934	Selection and effectiveness evaluation of spray nozzles for spray cooling system in dairy cattle housing Hao Li, Department of Engineering, Aarhus University, Tjele, Denmark (H. Li, T. Ding, G. Zhang, Z. Yan, C. Wang, Z. Shi)
10	152188030	Measurement and Evaluation of Dust Generation in a Broiler House considering Respiratory Welfare of workers Yeseul Jo, Seoul National University, Seoul, Korea (the Republic of) (Y. Jo, I. Lee)
11	152188394	Use of clustering techniques to identify thermal profiles inside broiler houses (tunnel ventilated facilities) for strategic positioning of sensors Thayla M. Carvalho, University of Campinas, Campinas, Brazil (T.M. Carvalho, D. Conti, J.M. Massari, D.J. Moura, J. Martinez)
12	152188786	Development of an Automated Scraper System Based on Liquid-Solid Separation for Swine Barn Zhiyuan Gui, Department of Agricultural Structure and Bioenvironmental Engineering, China Agricultural University, Beijing, China (Z. Gui, K. Cheng, G. Chen, B. Li, Z. Shi, C. Wang, W. Cao, W. Cui, M. Xie)
13	152189646	Study on dust monitoring and reduction technique in a swine confinement building Kyeongseok Kwon, Seoul National University, Seoul, Korea (the Republic of) (K. Kwon, I. Lee)
14	152189918	Monitoring Thermal Environment of Commercial Live Haul Broiler Vehicles Yi Liang, University of Arkansas, Fayetteville, AR (Y. Liang, Z. Liang)
15	152190224	Evaluating Ventilation Rates Based on New vs Old Heat and Moisture Production Data for All Phases of Swine Production Yanxi Lu, University of Illinois at Urbana-Champaign, Urbana, IL (Y. Lu, M. Hayes)
16	152190704	Temperature Prediction in Aviaries with Negative Pressure Ventilation Systems. Denise T. Detsch, UNICAMP, Campinas, Brazil (D.T. Detsch, D. Conti, T.M. Carvalho, M.A. Ehrhardt, J. Martinez)

WEDNESDAY, JULY 29

- | | | | | | |
|----|-----------|---|----|-----------|--|
| 17 | 152184693 | Influence of Temperature Regulating Device and Relative Humidity Monitoring on Performance of a Natural Convective Heated Incubator
Joshua O. Olaoye, University of Ilorin, Ilorin, Ilorin, Nigeria (J.O. Olaoye) | 32 | 152188673 | Recommended floor pressures for the design of grain bin foundations – a survey and assessment of the literature.
Gregory D. Williams, Facility Engineering Services, Springdale, AR (G.D. Williams, K.A. Rosentrater) |
| 18 | 152188878 | Air flow pattern in an enclosed Japanese dairy house with push and pull low profile cross ventilation system
Atsuo Ikeguchi, Utsunomiya University, Utsunomiya, Japan (A. Ikeguchi, T. Naide, M. Ohwada, Y. Shimode, K. Noritake) | 33 | 152190408 | Lateral Strength and Stiffness of Post and Pier Foundations
David R. Bohnhoff, University of Wisconsin-Madison, Madison, WI (D.R. Bohnhoff) |
| 19 | 152189805 | Emerging Cooling Technologies for Dairy Housing
Mario Mondaca, University of Wisconsin, Madison, WI (M. Mondaca, M.K. Harper, C.Y. Choi) | 34 | 152184119 | Effect of different substrates on the growth and mechanical quality of cucumber plug transplants production
Luhua Han, Jiangsu University, Zhenjiang, China (L. Han, L. Yan, H. Mao, J. Xu, J. Hu, L. Yang) |
| 20 | 152172877 | A quarter milking analysis device – description, validation and demonstration
John Upton, Teagasc, Cork, WI, Ireland (J. Upton, D.J. Reinemann, J.F. Penry, P.D. Thompson) | 35 | 152189901 | Different Ratios of Red and Blue LED Light Affect on Lettuce (<i>Lactuca sativa</i>) and Pepper (<i>Capsicum annuum</i> L.) Production
Most Tahera Naznin, McGill University, ste-anne-de-Bellevue, Canada (M. Naznin, M.G. Lefsrud, V. Gravel, B. Wu, S. Reddy) |
| 21 | 152188871 | Effect of reducing concentration of picornaviridae, sapelo virus, porcine epidemic diarrhea virus and escherichia coli with spraying functional water
Takanori Naide, Utsunomiya University, Utsunomiya, Japan (T. Naide, A. Ikeguchi, A. Miyazaki, K. Katsuda) | 36 | 152182858 | Current researches on precooling technology and equipment for fruits and vegetables
Lv Shengping, South China Agricultural University, Guangzhou, China (L. Shengping, L. Enli, L. Huazhong, F. Sizhen, Y. Songxia) |
| 22 | 152189736 | Development of web-based forecasting system for spread of airborne livestock virus using OpenFOAM CFD technique
Seungno Lee, Seoul National University, Seoul, Korea (the Republic of) (S. Lee, I. Lee) | 37 | 152192210 | Economic Potential of Irrigated Improved Citrus Seedlings in Nigeria
Afolayan S. Olaoye, NIHORT, Kano, Nigeria (A.S. Olaoye) |
| 23 | 152190425 | Effect of Pigment Intensity and Region of Eggshell on the Spectral Transmission of Visible Light that Passed the Eggshell and Element Change During the Incubation
Yue Yu, Zhejiang University, Hangzhou, China (Y. Yu, J. Pan) | 38 | 152192063 | Assessing Pathogen Inactivation in Organic Biofertilizer from Foodwaste
Pramod Pandey, University of California-Davis, Davis, CA (P. Pandey, S. Biswas, M. Lejeune, D. Morash, B. Weimer, G. Young) |
| 24 | 152183519 | Analysis of Bottom Net in Deep Layer Chicken Cages on Egg Breaking in Rolling Process Based on EDEM
Tengfei Li, China Agricultural University, Beijing, China (X. Chen, H. Wang, J. Yang, D. Kong, T. Li, F. Peng) | 39 | 152192061 | Predicting Salmonella Decay in Poultry Carcasses
Wenlong Cao, University of California-Davis, Davis, CA (P. Pandey, W. Cao, V.K. Vaddella, J. Shi) |
| 25 | 152181262 | Dairy Manure Protein Analysis Using UV-Vis Based on the Bradford Method
Zong Liu, University of Wisconsin-Madison, Madison, WI (Z. Liu, J. Santini Gonzalez, H. Wang, T. Runge) | 40 | 152189611 | Formulation and Stability of Energy Dense Food Paste for Severe Acute Malnourished Children
Danie Shajie A, Indian Institute of Technology Kharagpur, Kharagpur, India (D. A. H. Mishra) |
| 26 | 152188605 | Evaluating Energy Use and Conservation on Dairies in the Northern Great Plains – Outreach Efforts and Needs for Periods of Heat Stress
Erin Cortus, South Dakota State University, Brookings, SD (E. Cortus, K.A. Janni, J. Saffer, H. Carroll, T. Erickson, J. Paulson, S. Pohl) | 41 | 152189451 | Correlation of Phenotypic markers and lipid content of field peas
Richa Kalia, McGill University, Canada, Saint-anne-de-bellevue, Canada (R. Kalia, M.G. Lefsrud) |
| 27 | 152188611 | Environmental Impact Assessment of Beef Production in Kansas, Oklahoma, and Texas
Senorpe Asem-Hiablie, USDA-ARS, University Park, PA (S. Asem-Hiablie, C.A. Rotz, H. Bonifacio, J. Dillon) | 42 | 152188892 | Effects of the crushing and ensiling process of brown rice grain on in situ starch degradability
Hidehiko Inoue, National Agriculture and Food Research Organization, Nasushiobara, Japan (H. Inoue, M. Matsuo, M. Miyaji, M. Tohno, T. Kawaide) |
| 28 | 152188947 | Application of process engineering principles to improve the efficiency of resource use in UK pork production chains
Paul Jackson, Newcastle University, Newcastle Upon Tyne, United Kingdom (P. Jackson, J.H. Guy, B. Sturm, S.J. Bull, S.A. Edwards) | 43 | 152183643 | Nonlinear finite element static analysis and experiment of caged floor
Tengfei Li, China Agricultural University, Beijing, China (T. Li, H. Li, H. Wang, B. Li) |
| 29 | 152189964 | Impact of Tannins on Greenhouse Gas Emissions from Urine and Feces Collected from Grazing Cows
Rhonda Miller, Utah State University, Logan, UT (R. Miller, T. Nielson) | 44 | 152188243 | Diffusion vs Convection in Water Mass Evapotranspiration: A Comparison on Biological Materials
Jorge Flores-Velazquez, Mexican Water of Water Technology, Cuernavaca, Mexico (A. Rojano, J. Flores-Velazquez, R.S. Salazar, W. Ojeda) |
| 30 | 152190100 | Effect of Tillage Methods on Oxygen Concentrations in Compost Bedded Pack Barns
John T. Evans, University of Kentucky, Lexington, KY (J.T. Evans, M.P. Sama, J. Taraba, G. Day) | 45 | 152190176 | Quantification of Spatial Variability and Seasonal Effects on Gaseous Emissions from an Open Swine Manure Storage using Dynamic Flux Chambers
Atilgan Atilgan, Suleyman Demirel University, Ames, IA (J.A. Klein, A. Atilgan, J.P. Stinn, H. Xin, T.A. Shepherd) |
| 31 | 152190111 | Modeling the H₂S Concentrations Affected by Shelterbelts Downwind From a Swine Facility
Brett Pettigrew, USDA-NRCS, Huron, SD (B. Pettigrew, E. Cortus, R. Nicolai) | 46 | 152152501 | Broiler House Litter Sampling: The Final Frontier
Dana Miles, USDA-ARS, Mississippi State, MS (D. Miles, J.P. Brooks, D.E. Rowe, P.A. Moore, J.D. Evans, J.N. Jenkins) |

WEDNESDAY, JULY 29

- 47 152188590 **Reducing Heat Stress through Cooling Fan and Fabric Air Ducting System for Dairy Cows Housed in an Open-Sided Barn**
Chaoyuan Wang, Department of Agricultural Structure and Bioenvironmental Engineering, China Agricultural University, Beijing, China (L. Xie, Z. Gui, L. Zhang, Z. Shi, B. Li, L. Ding, C. Wang)

Wednesday, July 29 - 10:15AM-12:35PM

SESSION 343

MYCOTOXINS IN FOOD AND FEED: PRESENT STATUS AND FUTURE CONCERNS - Sponsored by PRS-702

Moderator: Griffiths Atungulu, University of Arkansas, Fayetteville, AR

LOCATION: Mardi Gras D- 3rd Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152210500	Basics of mycotoxins and a review of present and emerging detection techniques Supriya Thote, University of Arkansas, Fayetteville, AR (S. Thote)
10:50AM	152210486	Application of Fluorescence Hyperspectral Imaging for the Detection of Aflatoxin Contamination in Corn Haibo Yao, Mississippi State University, Stennis Space Center, MS (H. Yao)
11:20AM	152217729	Enhancing Efficacy of Biological Control of Aflatoxin Contamination in Corn Using Ecological Approaches Peter Ojiambo, North Carolina State Univ, Raleigh, NC (P. Ojiambo)
11:50PM	152212637	Engineering effective strategies for prevention of mycotoxin and maintaining grain quality Griffiths Atungulu, University of Arkansas, Fayetteville, AR (G. Atungulu)
12:20PM	152210498	Mitigation of the mycotoxin menace in food and feed supply: Elimination of preharvest contamination Kanniah Rajasekaran, USDA- ARS, New Orleans, LA (K. Rajasekaran)

Wednesday, July 29 - 10:15AM-12:30PM

SESSION 344

UPGRADING OF BIOGAS AND BYPRODUCTS FROM ANAEROBIC DIGESTION TO FUELS AND CHEMICALS - Sponsored by PRS-707

Moderator: Kurt Rosentrater, Iowa State Univ

LOCATION: Iberville- 4th Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152161469	Pathways for converting biogas to transportation fuels Liangcheng Yang, Illinois State University, Normal, IL (L. Yang, X. Ge, C. Wan, F. Yu, Y. Li)
10:35AM	152219852	A new strategy for removal of hydrogen sulfide from biogas during solid-state anaerobic digestion Yebo Li, Ohio State University, Wooster, OH (W. Zhang, X. Ge, Y. Li)
10:50AM	152221311	Conversion of biogas to methanol using novel methanotrophs isolated from solid-state anaerobic digestate Johnathon Sheets, The Ohio State University-OARDC, Wooster, OH (J. Sheets, X. Ge, W. Zhang, Y. Li)
11:05AM	152221307	Liquid Hydrocarbons from Biogas Via Reforming, Syngas Cleaning and Catalytic Conversion Fei Yu, Mississippi State University, Mississippi State, MS (Q. Yan, J. Street, F. To, Y. Li, F. Yu)

- 11:20AM 152221294 **Methane dry reforming with carbon dioxide via Ni-based bimodal pore catalyst**
Zhenghong Bao, Mississippi State University, Starkville, MS (Z. Bao, Y. Lu, Q. Yan, J. Street, Y. Li, F. Yu)
- 11:35AM 152187976 **Recovery of nitrogen from swine manure containing high-ammonia using gas-permeable membrane technology and reduced chemicals.**
Maria C. Garcia Gonzalez, ITACyL Agriculture Technological Institute, Spain, Valladolid, Spain (M.C. Garcia Gonzalez, M. Vanotti, A. Szogi)
- 11:50AM 152214761 **Integrating electrochemical and biological routes to convert organic wastes into value-added chemicals**
Yan Liu, Michigan State University, East Lansing, MI (Y. Liu, Z. Liu, W. Liao)
- 12:05PM 152190455 **Combined Aerobic and Anaerobic Treatment of Swine Manure and Wastewater for the Enhancement of Algal Cultivation**
Lijun Wang, North Carolina Agricultural and Technical State University, Greensboro, NC (L. Wang, B. Zhang)

Wednesday, July 29 - 10:15AM-12:30PM

SESSION 345

DRYING HANDLING AND STORAGE- PART 2 - Sponsored by PRS-702

Moderator: Kevin Moore, Oklahoma State Univ

LOCATION: Balcony L- 4th Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152188454	An Automated Sample Divider for Farmers Stock Peanuts Christopher Butts, USDA ARS, Dawson, GA (C. Butts, H.T. Sheppard, M.C. Lamb)
10:35AM	152189116	Impact of a Polyethylene Liner on the Storage of Canola in Un-aerated Steel Bins – Year 1 Results Kevin G. Moore, Oklahoma State University, Stillwater, OK (K.G. Moore, C.L. Jones)
10:50AM	152181672	Evaluation of Critical Parameters for High Voltage Atmospheric Cold Plasma Treatment of Distillers Wet Grains Janie McClurkin, Purdue, West Lafayette, IN (J. McClurkin, K.E. Ileleji, K.M. Keener)
11:05AM	152187824	Drying characteristics of selected vegetables in Northern Mindanao, Philippines Lope G. G. Tabil, University of Saskatchewan, Saskatoon, Canada (M.P. Mosqueda, L.G. Tabil, G. Cubio, J. Tajale, S.T. Aguhob)
11:20AM		Break
11:30AM	152189249	Effect of drying methods on quality of cranberry seed oil and meal Kasiviswanathan Muthukumarappan, South Dakota State University, Brookings, SD (K. Chinnadurai, K. Muthukumarappan)
11:45AM	152180988	Advanced Electronic Psychrometer for Improved Measurement and Control of Humidity in Real-Time Christopher W. Callahan, The University of Vermont, Rutland, VT (C.W. Callahan)
12:00PM	152179775	Storage stability of barley flaxseed based functional soup mix Madhusweta Das, Indian Institute of Technology Kharagpur, Kharagpur, India (M. Das, S. Kaur)

WEDNESDAY, JULY 29

Help the contestants

“Earn Their Beads”

YPC All in Good Fun

Stop by their booth for more information

Wednesday, July 29 - 10:15AM-12:45PM

SESSION 346

MODELING AND OPTIMIZATION IN POSTHARVEST STORAGE - Sponsored

by PRS-703

Moderators: Karunanithy Chinnadurai, UW-Stout, Menomonie, WI and Ruplal Choudhary, Southern Illinois University, Carbondale, IL

LOCATION: Balcony I- 4th Floor

Time	Paper #	Title/Authors
10:15AM		Introduction
10:20AM	152181563	Optimization of wheat supply chain for post-harvest loss minimization Yogendra Shastri, Indian Institute of Technology, Bombay, Mumbai, India (Y. Shastri, S. Mittal, I. Bajaj, L. Rodriguez, Y. Ouyang, T. Lin, W. Liao, P.K. Paulausky)
10:35AM	152184675	An innovative method to quantify postharvest quality loss of cucumber using Taguchi approach Patrick E. Cortbaoui, McGill University, Laval, Canada (P.E. Cortbaoui, M. Ngadi)
10:50AM	152189295	Assessment of On-Farm, In-Bin Drying of Rough Rice in the United States Arkansas Locations Houmin Zhong, University of Arkansas Division of Agriculture, Fayetteville, AR (G. Atungulu, H. Zhong)
11:05AM	152180602	Cotton Warehousing Efficiencies Lauren Hazelrigs, Texas A&M University, College Station, TX (L. Hazelrigs)
11:20AM	152189412	Physical and Thermal Properties of Chia, Kaniwa, Triticale and Farro as a Function of Moisture Content Rashid Suleiman, Iowa State University, Ames, IA (R. Suleiman,, K. Xie, K.A. Rosentrater)



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drawing Tuesday @ 5:30pm

drawing Tuesday @ 5:30pm

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Exchange your ticket for a **Bag-a-Brew while supplies last!**

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