



Contents & General Session



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GENERAL INFORMATION

REGISTRATION

Our registration desk is happy to answer any questions you may have during the conference. The registration desk is located on the Atrium II in the Grand Ballroom foyer of the Hilton Anatole Dallas on the lobby level. Registration hours are:

| | |
|---------------------|------------------|
| Saturday, July 28 | 12:00PM – 6:00PM |
| Sunday, July 29 | 7:00AM – 6:00PM |
| Monday, July 30 | 6:00AM – 6:00PM |
| Tuesday, July 31 | 6:00AM – 6:00PM |
| Wednesday, August 1 | 6:00AM – 5:00PM |

LOCATION

Hilton Anatole Hotel
2200 N Stemmons Freeway
Dallas, Texas 75207

NAME BADGES

Please wear your name badge at all times. This is how we know you are a conference attendee and it will allow you access into meetings, the exhibit hall and meal functions.

ELECTRONIC DEVICES

As a courtesy to your colleagues, please turn off or silence all electronic devices during sessions, workshops and plenary addresses. There will be no photographs, video taping or recording of presentations without advance approval from ASABE.

2012 GENERAL SESSION

Monday, July 30

Location: Khmer Ballroom

Recognition - 8:00AM

Keynote Speaker - 8:45AM

“From Plant to Palate – R&D Solutions for Delighting Consumers with Confectionery”



Ramana Sundara,
Manager of External Research
Collaborations at Nestlé Product
Technology Centre
York, United Kingdom

Ramana Sundara, B.S. (Agriculture), M.S. (Food Technology), Ph.D. (Nottingham, United Kingdom) in food science and has been actively involved in food research for 27 years. His early research work at the Defence Food Research Laboratory (India) involved developing quick-cooking and survival rations for Armed Forces. He then worked at the Federal Research Centre for Nutrition, Karlsruhe (Germany) as an Alexander von Humboldt Research Fellow, before joining Nestlé Research Centre, Lausanne (Switzerland) in 1995. He has published over 33 scientific papers/presentations and holds five patents, with an emphasis on fruits/vegetables, chocolate, dairy chemistry and processing technology. He is a Fellow and Chartered Scientist of Institute of Food Science and Technology (United Kingdom). Currently, he is the Manager of External Research Collaborations at Nestlé Product Technology Centre, York, United Kingdom.



Nestlé

Good Food, Good Life



ASABE Business Meeting



TUESDAY, JULY 31 - 12:30PM-1:15PM

Khmer Ballroom, Hilton Anatole



PRESIDENT
SONIA MAASSEL JACOBSEN

A 31-year member of ASABE, Jacobsen has a long history of involvement in the Society and other outside engineering activities. In 1998, Jacobsen was appointed by the governor of Minnesota to serve on the board which licenses engineers in Minnesota. She served as secretary of the Board and chair of the Complaint Committee during her 8 years of service. Now an emeritus member of the National Council of Examiners for Engineering and Surveying, Jacobsen serves on the Examinations for Professional Engineers committee, which is tasked with overseeing development and administration of the various professional engineering exams. She serves on ASABE's ED414 committee, assisting with writing the Agricultural Engineering PE exam.

Jacobsen was asked to join the ED-204 committee in 2003 and became an ABET evaluator for ASABE. She served as secretary, vice chair, and chair of ED-204, and also as alternate representative to the Engineering Accreditation Committee of ABET for ASABE.

Jacobsen was awarded the PEI Professional Engineer of the Year Award in 2007 and was named an ASABE Fellow in 2008, the third woman, and only non-academic female to receive this honor. Jacobsen served on the ASABE Board of Trustees from 2003 to 2005 and was chair of the Membership Development Council from 2007 to 2009. She chaired the Dues Review Committee in 2007, and headed the effort to change the constitution to allow electronic voting in 2008.

A long-time member of the SW25 committee, Jacobsen also has served 3 years on the E-08 committee, which plans the Fellows induction ceremony. She presently also serves on the Foundation Board of Trustees where she heads the Societal Relations Committee.

After receiving her bachelor's degree in agricultural engineering from the University of Minnesota, Jacobsen completed her master's degree in civil engineering at the University of Illinois, with an emphasis in water resources.

In her professional life, Jacobsen is now in her 34th year of employment as a public sector engineer. Jacobsen's strengths lie in hydrology and water resources, notably wetland hydrology.



PRESIDENT-ELECT
TONY KAJEWSKI
Manager, John Deere

"Our world will face shortages in food, fuel, and water in the future. ASABE is in a unique position because our members provide system solutions to address all of these shortages. As ASABE president, I will encourage and promote ASABE's leadership role in developing and promoting these solutions."

In over 31 years of employment with John Deere, Kajewski has held positions in quality engineering, manufacturing engineering, marketing, customer service, design, and program management. He is currently the continuous improvement engineering manager for large tractors and is located in Waterloo, Iowa. His design experience includes development of the 9000 Series wheel and track tractors as well as cabs for tractors and sprayers.

An ASABE member since 1977, Kajewski has contributed to the development of ASABE standards in the power and machinery area. He has been a member of PM23/4/3 for over 20 years. He has chaired eight projects for lighting and marking standards that focus on safety for operators and motorists. Kajewski has been active in developing meetings for ASABE and served as Meetings Council chair. He was chair of the first AETC meeting and served on the planning committee for ten years. He has chaired the Power and Machinery Division and has served on the Board of Trustees, the Foundation, and more than ten committees, including PM01, PM02, PM03, Standards Council, PM05, M102, M113, and M131. He has also been very active in the Iowa Section and has held several offices, including chair.

Kajewski has received three Presidential Citations and a Standards award. He was the Iowa Section's Engineer of the Year and in 2006 was named an ASABE Fellow. He is the immediate past treasurer of the ASABE Foundation.



ASABE BUSINESS MEETING

Tuesday, July 31 - 12:30PM-1:15PM

Khmer Ballroom



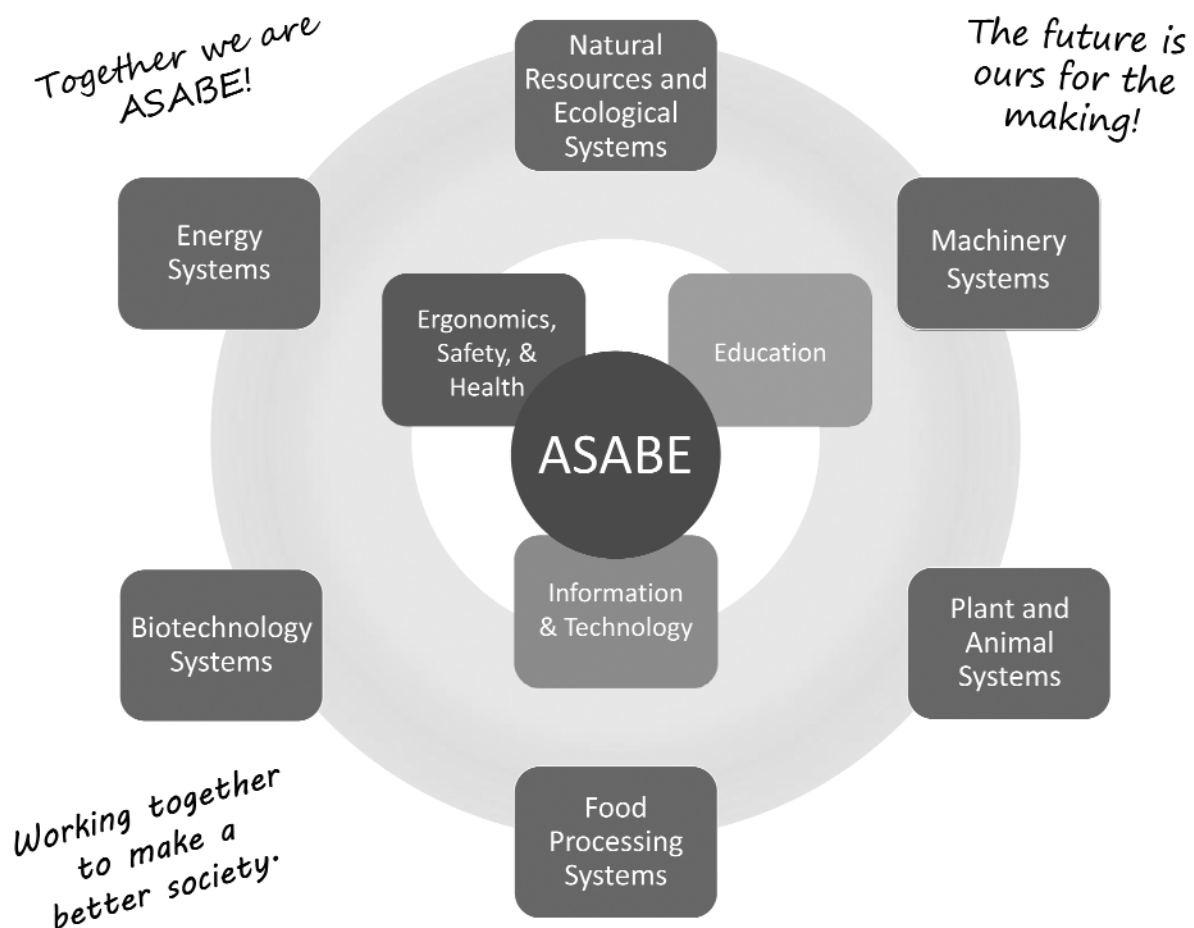


FUTURE THINKING

– PANEL DISCUSSION & BRAINSTORMING –

Tuesday, July 31 – 1:15PM-2:15PM

Khmer Ballroom, Hilton Anatole





Meetings & Sessions



SUNDAY, JULY 29

E#2

PROFESSIONAL ENGINEERING EXAM QUESTION WRITING SESSION

Sunday, July 29 – 8:00AM-4:00PM

Location: Plum Blossom A

Licensed Professional Engineers are welcome to participate in a day-long effort to write and evaluate agricultural engineering Professional Examination test questions. Persons attending must be licensed professional engineers and provide their PE number to participate.

Preregistration is required.

PREPROFESSIONAL DEVELOPMENT SEMINAR

Sunday, July 29 – 11:00AM-12:00PM

Location: Plum Blossom B

A presentation by Virginia Tech's Mary Leigh Wolfe will headline the Professional Development Seminar. Wolf will discuss resumes, interviewing and professionalism to prepare students for the ASABE career fair on Tuesday, July 31.

FUNDAMENTALS OF ENGINEERING (FE) REVIEW SESSION

Sunday, July 29 – 6:00PM-7:00PM

Location: Plum Blossom B

Are you graduating in the next 12 months? Do you feel unprepared to take the FE? Have you been putting off taking the FE because it is too hard? If you answered YES to any of these questions, come to the FE information and review session to learn what is on the exam and how to master it from people who mastered it themselves.

MONDAY, JULY 30

WHAT YOU DIDN'T KNOW ABOUT ASABE

Monday, July 30 – 7:00AM-8:00AM

Location: Ming

Have you ever wondered what happens when there are too few PE examinees? Or are you trying to decide which activities and events to attend while at AIM? We invite you to attend an informational session hosted by the Young Professional Community to introduce new and old members alike to the many opportunities available in ASABE. Topics to be addressed include professional licensure, YPC's history since its inception 10 years ago, Communities of ASABE, as well as a preview of events to come so you can make the most of the meeting. Refreshments will be provided. All members, especially first-time meeting attendees and preprofessionals are encouraged to attend.

Session #105

SOIL & WATER DISTINGUISHED LECTURE

– INVITED PRESENTATIONS

Monday, July 30 – 9:30AM-12:00PM

Location: Inverness

Sponsored by: Soil and Water Division

Moderator: David Bjorneberg, USDA-ARS

9:30AM **Introduction**

9:35AM **Managing High Plains Water Resources for Optimum Socio-Economic Outcomes**

David Brauer, USDA ARS

10:15AM **BREAK**

10:25AM **Deficit Irrigation Management from Production Functions to Decision Aids**

Norm Klocke, Kansas State University

11:05AM **Storm Water Runoff from Natural Gas Well Sites in North Texas; Sampling, Modeling, and Management Options**

Kenneth Banks, City of Denton, Texas.

Session #124

INDUSTRY LEADERS IN THERMOCHEMICAL CONVERSION OF BIOMASS INTO FUELS, CHEMICALS AND POWER

– INVITED PRESENTATIONS

Monday, July 30 – 9:30AM-12:00PM

Location: Ruby

Sponsored by: T-11, FPE-709

Moderator(s): Kaushlendra Singh, West Virginia State University

Ajay Kumar, Oklahoma State University

Target Audience: Researchers involved in biomass thermochemical conversions

Learning Objectives: To learn about industry initiatives and challenges in thermochemical conversion of biomass into fuels, chemicals, and power.

Benefits: Gain industry perspectives on biofuels production

The
ASABE Foundation

SILENT AUCTION

Sunday, July 29 thru

Wednesday, August 1

Bidding ends at 3:00PM Wednesday

Located in Grand Ballroom



Meetings & Sessions



Session #151

THE IMPORTANCE OF ASABE ADVOCACY: HOW EDUCATING POLICY MAKERS IS VITAL FOR THE FUTURE OF BIOENGINEERING – INVITED PRESENTATIONS Monday, July 30 - 9:30AM-12:00PM

Location: Ming

Sponsored by E-07, Issues Management and Social Action Committee

Moderator: Victor Duraj, University of California, Davis

Ever wonder how policy makers learn about agricultural and biological engineering issues? Curious as to how the Congressional process really works? Join us to learn about and discuss these issues and the role ASABE plays in highlighting the contributions of agricultural and biological engineering to our decision makers in Congress. The session will be followed by a regular meeting of E-07, Issues Management and Social Action, the ASABE committee that coordinates ASABE positions on public policy issues; all interested attendees are encouraged to stay for the meeting.

Speakers:

John Bonner - Vice President and CEO

The Council for Agricultural Science and Technology (CAST)

Bradley Rein - Division Director of Agricultural Systems

National Institute of Food and Agriculture (NIFA)

Victor Duraj - ASABE E-07 Chair

Associate Development Engineer

University of California, Davis

Sean Gallagher - Director of Public Policy

American Institute for Medical and Biological Engineering

(AIMBE) and former Congressional Aide

Session #130

MODELS AND APPS FOR MANAGING WATER RESOURCES – CAFÉ SESSION

Monday, July 30 – 2:30PM-5:00PM

Location: Grand Ballroom

Moderator: Kyle R. Douglas-Mankin, Kansas State University

This “Café Session” is an exciting new concept that we are trying for this session only this year. As noted in the Call for Papers, the new Café Session format gives attendees a “bite” of research results, followed by ample time for in-depth interaction. Presenters give brief, results-oriented oral presentations (2-3 minutes, 1-2 slides each) after which attendees circulate among presenters for one-on-one discussion and demonstrations. All forms of tablet, smart-phone, or laptop models/apps are encouraged.

- 1 121337449 **A SWAT-Based Decision Support Tool for Hawaii Sugarcane Plantation**
Jaehak Jeong, Texas AgriLife Research, Temple, TX (Jaehak Jeong, Jeff G. Arnold, Charles A. Jones, Raghavan Srinivasan)
- 2 121338471 **Simulating Dryland Water Availability for Spring Wheat Production Under Various Management Practices in the Northern Great Plains**
Zhiming Qi, USDA-ARS Agricultural Systems Research Unit, Fort Collins, CO (Zhiming Qi et al. (to be determined))
- 3 121337077 **Water Management Apps - Initial Concepts and Development Approach**
Dennis R. Buckmaster, Purdue University, West Lafayette, IN (Dennis Buckmaster, Aaron Ault, Indrajeet Chaubey, Jane Frankenberger, Jim Krogmeier, Bernie Engel)
- 4 121336835 **MIST: A Web-Based Irrigation Scheduling Tool for Mississippi Crop Production**
Amy M. Schmidt, Mississippi State University, Mississippi State, MS (A. Schmidt, G. Sassenrath, J. Crumpton, B. Rice, and J. Schneider)

- 5 121338011 **A Web Application to Evaluate the Impact of Global Change on Water Resources in the Continental United States**
Peter Caldwell, USDA-FS, Raleigh, NC (P. Caldwell, G. Sun, S. McNulty, E. Cohen, J. Moore Myers, R. Bhattari)
- 6 121340989 **Hydrological Model and Applications of Managing Water Resources, a Case Study of Osun River Basin, Nigeria**
Micheal O. Alatise, Federal University of Technology, Akure, Ondo State, Nigeria., Akure, Nigeria (Alatise, M.O. and Adeboye, B.O.)
- 7 121336702 **Using the SWAT Model to Predict Crop Yields and Salinity Levels**
Aaron R. Mittelstet, Oklahoma State University, Stillwater, OK (Aaron Mittelstet, Dan Storm, Art Stoecker)
- 8 121340778 **Applicational Analysis of Groundwater System Prediction Model**
Peiling Gao, Shandong University of Technology, Zibo, China (Peiling Gao; Shifeng Zhang)
- 9 121337134 **One-Step Estimation of Actual Evapotranspiration using Canopy Resistance Modeled from Primary Micrometeorological and Plant Physiological Variables**
Denis Mutibwa, University of Nebraska-Lincoln, Lincoln, NE (Denis Mutibwa and Suat Irmak.)
- 10 121354847 **Ephemeral Gully Identification Tool using ArcGIS**
Prasad Daggupati, Kansas State University, Manhattan, KS (Prasad Daggupati, Kyle Douglas-Mankin, Aleksey Sheshukov)
- 11 121337307 **WQlag-Water Quality Index for Runoff Water from Agricultural Fields**
Harbans Lal, USDA/NRCS, Portland, OR (Shaun McKinney)

Session #148

CHINA EXCHANGE – INVITED PRESENTATIONS Monday, July 30 – 2:30PM-5:00PM

Location: Rosetta

Sponsored by: Intl-601, AOCABFE

Moderator: Zhuping Sheng, Texas A&M University

Promoting and facilitating academic and research exchanges among scholars from China and other countries in sustainable agriculture.

- 2:00PM **Introduction**
- 2:35PM **Look into the Future and Work Together**
Sonia Maassel Jacobsen, President, ASABE
- 2:50PM **CSAE's Role and Practice in Promoting International Exchange and Cooperation in Agricultural Engineering**
Yingkuan Wang, Executive Deputy Chief, Chinese Academy of Agricultural Engineering
- 3:05PM **Research and International Collaborations of the Arid-Land Agricultural Research Center: Sustaining Agriculture in Water-Limited Environments**
Steven E Narajo, Director, USDA Arid-Land Agricultural Research Center
- 3:20PM **Review on Research and Application of Precision Agriculture**
Chunjiang Zhao, Director/Prof, China National Engineering Research Center for Information Technology in Agriculture
- 3:35PM **An Exciting Time for China-US Collaborations in Sustainable Agriculture**
Hongwei Xin, Director, Iowa State University
- 3:50PM **BREAK**
- 4:00PM **Research and Development on New Irrigation Equipment**
Hong Li, Associate Director, Jiangsu University
- 4:15PM **New Opportunities for Farming and Rural Development**
Shu Geng, Professor, University of California Davis



Meetings & Sessions



4:30PM Studies of Wireless Sensor Network in Precision Agriculture
Minzan Li, Director, China Agricultural University

Session #149

GLOBAL PERSPECTIVES ON FOOD QUALITY, SAFETY AND SECURITY – INVITED PRESENTATIONS

Monday, July 30 – 2:30PM-5:00PM

Location: Opal

Sponsored by: FPE-703, AABFEIO

Moderator: Deepak R. Keshwani, University of Nebraska-Lincoln
Engineers, researchers, and industry professionals interested in food-related issues

Session #152

ECOLOGICAL ENGINEERING: THE STATE OF THE PRACTICE AND FUTURE DIRECTIONS – INVITED PRESENTATIONS

Monday, July 30 – 2:30PM-5:00PM

Location: Ming

Sponsored by BE-22

Moderator: William F. Hunt III

Per one of the father figures of ecological engineering, Dr. William Mitsch, this relatively young engineering field is defined as “the design of sustainable ecosystems that integrate human society with its natural environment for the benefit of both.” For many agricultural and biological engineers, particularly those with experience in natural systems, the field of ecological engineering is a natural fit. This invited session brings to the forefront advances in ecological engineering with a focus on what biological engineers have accomplished in the field and in the classroom. Presenters at this session will provide unique views of the future of ecological engineering, including integration of ecological engineering into the curriculum. The session will also feature a discussion on the Australasian experience of adapting ecosystem health into engineering design.

Invited speakers:

Margaret Greenway, Griffith University

Gregory Jennings, North Carolina State University

Manuel Reyes, North Carolina A&T University

TUESDAY, JULY 31

Session #224

AGRICULTURAL AND BIOLOGICAL ENGINEERING: THE EVOLUTION OF A DEGREE – SPECIAL SESSION

Tuesday, July 31 – 7:30AM-9:00AM

Location: Opal

Sponsored by: YPC

Moderator: Garrett Pommeranz

Come learn the latest updates from the ASABE education committee on curriculum, department and degree name changes and the direction the departments are taking. Discover how these updates could impact you as a Young Professional or future graduate in ASABE and have an opportunity to engage committee members by providing feedback and concerns on these topics. Also, find out how these changes will influence the companies or institutions you work for or will work for in the future.

Session #215

LED LIGHTING FOR ANIMALS, PLANTS AND EQUIPMENT – INVITED PRESENTATIONS

Tuesday, July 31 – 9:30AM-12:00PM

Location: Obelisk B

Sponsored by: SE-302, PM-23/4/3

Moderator: Melissa Brechner, Cornell University

Target Audience: Controlled environment agriculture and animal housing

Learning Objectives: To understand what LED products are on the market today and the performance capabilities of those products. This special session will feature both manufacturers showcasing their latest products and researchers documenting their experience with LED products.

Benefits: The ‘complete story’ featuring both manufacturers detailing what they believe their products can achieve, and academics providing quantitative results from experiments with the products.

Presentations will be made by representatives from GE, Orbitec, LumaVue, Phillips, NexGen, and Cycloptics

Session #220

FUTURE DIRECTIONS AND OPPORTUNITIES FOR SUSTAINABLE BIOENERGY R&D – PANEL DISCUSSION

Tuesday, July 31 – 9:30AM-12:00PM

Location: Emerald


Sponsored by: T-11, FPE-709

Moderator(s): Sundhagar Mani, K. Singh, Ajay Kumar, University of Georgia

Target Audience: Researchers, scientists and company staffs involved in bioenergy research

Learning Objectives: To learn vision and new funding opportunities and future directions in the bioenergy field

Benefits: To gain research and future funding perspectives from the federal funding agencies.



ASABE Career Fair
Tuesday, July 31
9:30AM-12:00PM
Grand Ballroom

Don't miss this outstanding networking opportunity that allows interested individuals to connect with Fortune 500 companies, agricultural and bio-based businesses, bio-research companies and major land grant universities looking for qualified candidates.



Meetings & Sessions



Session #227

SUPPLY OF HIGH TONNAGE FEEDSTOCK – INVITED PRESENTATIONS

Tuesday, July 31 – 9:30AM-12:00PM

Location: Manchester

Sponsored by: T-11, FPE-709, PM-23/7/2

Moderator(s): Shahab Sokhansanj, Erin Webb, Kevin Kenney,
Sam Tagore, ORNL

In August 2009, the U.S. Department of Energy selected five projects that will develop supply systems to handle and deliver high tonnage biomass feedstocks for cellulosic biofuels production. The awards were part of the department's ongoing efforts to reduce U.S. dependence on foreign oil, spur the creation of the domestic bio-industry and provide new jobs in many rural areas of the country. The chosen awards were selected as the best projects to stimulate the design and demonstration of a comprehensive system to handle the harvesting, collection, preprocessing, transport, and storage of sufficient volumes of sustainably produced feedstocks. Feedstocks or combinations of feedstocks that were considered include: agricultural residues, energy crops (e.g., switchgrass, miscanthus, energy-cane, sorghum, poplar, willow), forest resources (e.g., forest thinnings, wood chips, wood wastes, small diameter trees), and urban wood wastes.

Cellulosic Ethanol Feedstock Delivery System Development

Kevin Comer, FDC Enterprises

Supply Systems for Short-Rotation Woody Biomass

Tim Volk

High-Volume Switchgrass Harvest and Supply in the Southeast

Al Womac, University of Tennessee

Challenges in Harvesting and Storing Stover

Maynard Herron, AGCO Corp

Forest Residue Harvest for Bioenergy

Steve Taylor

ASABE BUSINESS MEETING

Tuesday, July 31 – 12:30PM-1:15PM

Location: Khmer Ballroom

President President Sonia Maassel Jacobsen and President-Elect Tony Kajewski will preside over the society's update and business meeting.

FUTURE THINKING

– PANEL DISCUSSION & BRAINSTORMING

Tuesday, July 31 – 1:15PM-2:15PM

Location: Khmer Ballroom

Sponsored by: Future Thinking ASABE

Target Audience: All ASABE members, potential ASABE members

Learning Objectives: A forum to share information about the current ASABE structure and the proposed changes

Benefits: This is an opportunity for the general membership to provide input and suggestions for proposed changes to the divisions within ASABE. The results and proposed action from the recently commissioned student engagement, recruitment and retention study will be discussed.

Panelists: Tami Brown-Brandl, USDA ARS
Sherry Hunt, USDA-ARS
Ron McAllister, CNH
Scott Osborn

Session #238

NRCS DESIGN, CONSTRUCTION AND SOIL MECHANICS – INVITED PRESENTATIONS

Tuesday, July 31 – 2:30PM-5:00PM

Location: Peridot

Sponsored by: SW-225, SW-22, SW-25

Moderator: Sherry Hunt, USDA ARS

The USDA Natural Resources Conservation Services (NRCS) applies sound engineering tools and principles to plan, design, and implement conservation practices and systems through delegated approval authority.

Engineering assistance can be obtained from NRCS field offices, area offices, state offices, national centers, and the Conservation Engineering Division in Washington, DC.

Ft. Worth, Texas, is the home of NRCS's National Design, Construction and Soil Mechanics Center (NDCSMC). The NDCSMC provides NRCS with interdisciplinary technical support for design, construction, operation and rehabilitation productivity. Featured speakers from NDCSMC will provide technical information ranging from design to hydraulics to construction to international assistance.

Those tentatively scheduled to make a presentation are:

Johnny Green

Tom Brown

Karl Visser

Dennis Clute

Jon Fripp

Session #244

NEW FRONTIERS IN RENEWABLE POWER GENERATION – INVITED PRESENTATIONS

Tuesday, July 31 – 2:30PM-5:00PM

Location: Plum Blossom A

Sponsored by: SE-414 Renewable Power

Moderator: Dr. Sergio Capareda, Texas A&M Univ.

Target Audience: ASABE members, engineers, students and renewable energy experts

Learning Objectives: Gain new knowledge in renewable energy for power generation from experts in field

Benefits: Advancement of science and engineering in renewable power generation

Biomass for Power Generation

Dr. Jay Darr

Geothermal Energy

Dr. Maria Richards

Solar Energy and Energy Systems

Mr. Roger Jennings

Wind Energy

Dr. Nolan Clark



Meetings & Sessions



Session #251

AFRICA'S FOOD SECURITY: CHALLENGES AND OPPORTUNITIES – INVITED PRESENTATIONS

Tuesday, July 31 – 2:30PM-5:00PM

Location: Opal

Sponsored by: African Network; INTL-601

Moderator: Israel S. Dunmade, Mount Royal University

Target Audience: Funding agencies, policymakers, researchers, other stakeholders and the public that are interested in the food security and progress of Africa

Learning Objectives: Understanding of the trends in agricultural and food security in Africa and what the future direction should be

Benefits: 1. It would enable researchers, funding agencies, and policy makers with focus on Africa to know where to channel their resources appropriately. 2. It will also serve as a learning opportunity for those that would like to contribute to agricultural development and food security in Africa to know the state of development and areas of need.

Invited Speakers:

Prof K.C. Oni

Prof. G.A. Mekanjuola

Dr. Michael Ngadi

Dr. Klein Ileleji

Session #253

ASABE ABET PEV REFRESHER WORKSHOP – RAP SESSION

Tuesday, July 31 – 2:30PM-5:00PM

Location: Ming

Sponsored by: ED-204

Moderator: Gary Clark, Kansas State University

Target Audience: Current ASABE ABET Program Evaluators (PEV's)

Learning Objectives: This session is for current ABET program evaluators (PEV's) and evaluators in training. Updates and changes to the ABET criteria will be discussed along with best practices for PEV's.

STANDARDS FOR CALIBRATION AND EVALUATION OF MODELS – RAP SESSION

Tuesday, July 31 – 7:00PM-9:00PM

Location: Inverness

Moderator(s): Bruce Wilson, University of Minnesota

Daniel Moriasi, USDA ARS, El Reno, Oklahoma

Daren Harmel, USDA ARS Temple, Texas

Purpose: To 1) present sub-committee (Process and Communication) summary of activities so far and vision forward, and 2) discuss how members want to proceed forward with the task of developing the ASABE model calibration and validation guidelines.

Draft Agenda:

7:00 pm Introduction

Prof. Bruce Wilson, ASABE Standards Development Project Coordinator

7:05 pm Process Committee: Summary of activities and progress since 2010 and the vision forward

Dr. Daniel Moriasi, Chair

7:30 pm Communication Committee: Summary of activities and progress since 2010 and the vision forward

Dr. Daren Harmel, Chair

7:55 pm Introduce All Member Discussion

Prof. Wilson, Moderator

8:00 pm Discussion on how to proceed with the task of developing ASABE model calibration and validation guidelines

All Members

9:00 pm Thank you very much for your participation

WEDNESDAY, AUGUST 1

Session #323

ABET PROGRAM EVALUATOR (PEV) INTRODUCTION – RAP SESSION

Wednesday, August 1 – 9:00AM-10:00AM

Location: Manchester

Sponsored by: ED-204

Target Audience: Persons interested in becoming an ASABE ABET Program Evaluator (PEV)

Learning Objectives: This session is intended for persons who are interested in becoming an ABET program evaluator (PEV) whether employed in government, industry, or academia. An open discussion will be held to provide basic information on the ABET PEV process, expectations, and timelines.

Session #324

ABET PRACTICES FOR THE ACADEMIC COMMUNITY – RAP SESSION

Wednesday, August 1 – 10:00AM-11:00AM

Location: Manchester

Sponsored by: ED-204

Target Audience: Department heads and departmental ABET program coordinators of ABET accredited programs

Learning Objectives: This session will focus on practices and experiences associated with ongoing assessment and preparation for ABET visits. Participants from various levels of assessment experience will be involved in group discussions

Session #326

ECOSYSTEM RESPONSES AND SUSTAINABILITY AS RELATED TO BIOENERGY

Wednesday, August 1 – 9:30AM-12:00PM

Location: Ming

Sponsored by: T-11, SW-21, SW-26

Moderator(s): Margaret Gitau, Claire Baffaut

This session covers ecosystem services including but not limited to food production, water quality, soil quality, aquatic and terrestrial wildlife habitat, flow regulation and economic sustainability that may be affected by bioenergy production in the landscape.



Meetings & Sessions



Session #347

**ENGINEERING SUSTAINABILITY: AN OVERVIEW OF
ONGOING NATIONAL AND INTERNATIONAL INITIATIVES
IN PRODUCTION AGRICULTURE AND MACHINERY
MANUFACTURING – INVITED PRESENTATIONS**

Wednesday, August 1 – 2:30PM-5:00PM

Location: Rosetta

Sponsored by: T-13, International Standardization

Moderator: John Fisher, The Alamo Group

There are numerous ongoing national and international initiatives focused on measuring various aspects of sustainability. Several of these initiatives are directed at production agriculture or production agriculture equipment. Attendees at this session will be provided with first hand updates regarding key initiatives and learn about some of the common threads found

throughout the various efforts. Details will be provided regarding where ASABE is connected and involved in sustainability - and how attendees can get involved and learn more about this important issue.

Speakers:

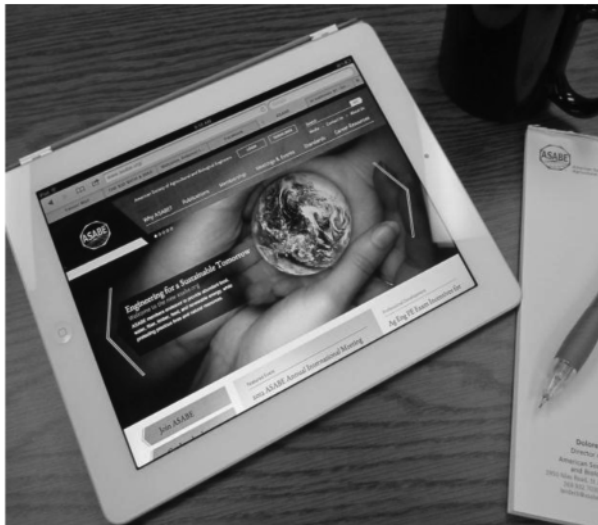
Mike Senneff - Principal, Product Safety Help LLC;
International Chair, ISO TC 23/SC3

Dr. Bill Norman - VP Technical Services, National Cotton
Council

Dr. Marty Matlock - Professor, University of Arkansas

Dr. Mike Leggett - Sr. Director, Environmental Policy, CropLife
America

Burleson Smith - VP, Environmental Affairs and Sustainability,
United Fresh Produce Association



**ASABE Foundation
is raffling off
not 1, but 2
Apple i-pads
w/Wi-Fi and 32 GB
(3rd Generation)**

**Purchase your raffle tickets at the
Silent Auction or from any
Foundation Board member.
Drawing will be 3:00PM, Wednesday, August 1**



Continuing Professional Development



SUNDAY, JULY 29

CPD #11

ON-HANDS TRAINING ON NATIONAL AGRICULTURAL PESTICIDE RISK ANALYSIS TOOL

Sunday, July 29 – 9:00AM-12:00AM

Location: Wyeth

Level of Difficulty: Entry Level

Instructors: Acushla Antony, Dr. Indrajeet Chaubey, Dr. Bernard Engel

CANCELLED

CPD #1

HYPER SPECTRAL AND MULTISPECTRAL IMAGING

Sunday, July 29 – 8:00AM-5:00PM

Location: Fleur de Lis A

Sponsored by: IET-348

Instructors: Seung-Chul Yoon; Bosoon Park; Kurt Lawrence

CANCELLED

CPD #2

NOVEL AND ADVANCED FOOD PROCESSING TECHNOLOGIES

Sunday, July 29 – 8:00AM-5:00PM

Location: Fleur de Lis B

Sponsored by: FPE-703

CANCELLED

CPD #3

Principles of Near-Infrared Spectroscopy for Research

Sunday, July 29 8:00AM-5:00PM

Sponsored by: IET-348

Instructors: David Funk

CANCELLED



CPD #4

ANAEROBIC DIGESTION TECHNOLOGIES

Sunday, July 29 – 12:30PM-4:30PM

Location: Wyeth

Sponsored by: FPE-707

Level of Difficulty: Entry Level

Instructor(s): Dr. Ruihong Zhang, University of California
Dr. Conly Hansen, Utah State University

Target Audience: Engineers, researchers and others interested in waste-to-energy conversion.

Learning Objectives: Participants will learn methods on how to determine the biodegradability and biogas production potential of various biomass feedstock, different pretreatment technologies for enhancing biogas production potential of feedstock, design and operational guidelines for anaerobic digesters, selected anaerobic digester designs, and equipment used for anaerobic digesters and biogas cleaning technologies.

Benefits: Audience will gain basic and practical knowledge about feedstock testing and pretreatment, anaerobic digestion design and operation, and biogas processing for energy production.

COST: \$78 4.0 CEU credits. Minimum needed to hold session 15

CPD #5

DESIGNING TO MEET AIR QUALITY REGULATIONS AT A BIOENERGY PLANT

Sunday, July 29 – 12:30PM-4:30PM

Location: Travertine

Sponsored by: T-11

Level of Difficulty: Intermediate

Instructors: Calvin B. Parnell, Jr., Russell McGee

Target Audience: Air quality engineers and environmental professionals

Learning Objectives: Proper design of abatement systems for bioenergy plants to meet increasing air quality regulations

Benefits: Ensuring health and safety of the public and compliance with appropriate air quality regulations in the operation of emerging bioenergy plants.

COST: \$94 4.0 CEU credits. Minimum needed to hold session 10

SILENT AUCTION

Sunday, July 29 thru
Wednesday, August 1
Bidding ends at 3pm Wednesday
Located in the Grand Ballroom



Continuing Professional Development



CPD #6

DESIGNING AGRICULTURAL APPLICATIONS FOR HANDHELD MOBILE DEVICES

Sunday, July 29 – 12:30PM-4:30PM

Location: Steuben

Sponsored by: IET-254, PM-54

Level of Difficulty: Entry Level

Instructors: Joseph Dvorak

Target Audience: Engineers and researchers to develop applications for handheld mobile devices

Learning Objectives: a) Understand the basic applications development process b) become familiar with the tools required for applications development c) develop a simple application

Benefits: Agricultural producers, extension agents, students and many other people are quickly adopting smartphones capable of running application software commonly known as *apps*. This is providing agricultural and biological engineers with opportunities to share information, provide interfaces with equipment and create entirely new systems that were impossible or impractical before. This workshop will cover the basics of App development and tools that are required for various types of development. In this workshop, a simple but useful *app* will be developed by each participant. This I will be based on the Android platform, and participants will need to bring a Windows laptop on which they may install and run applications to enable development.

COST: \$80 4.0 CEU credits. Minimum needed to hold session 10

CPD #7

DIELECTRIC PROPERTIES MEASUREMENTS FOR FOOD AND AGRICULTURE

Sunday, July 29 – 12:30PM-4:30PM

Location: Peridot

Sponsored by: IET-348

CANCELLED

CPD #8

TECHNICAL SERVICE PROVIDER (TSP) TRAINING

Sunday, July 29 – 12:30PM-4:30PM

Location: Obelisk A

Sponsored by: NRCS

Instructors: NRCS personnel

CANCELLED

CPD #9

SOFT SKILLS FOR ENGINEERS – WHAT THEY ARE AND WHY THEY ARE IMPORTANT

Sunday, July 29 – 12:30PM-4:30PM

Location: Monte Carlo

Sponsored by: Young Professional Community

Level of Difficulty: Entry Level

Instructor: Dr. Michael Boyette, Ph.D., P.E.

Target Audience: YPC members and anyone looking to improve their “soft engineering” skills.

Learning Objectives: Understand and develop the soft or non-technical skills required to be a successful engineer.

Benefits: Better understanding of your personal and administrative limitations to reach your full engineering potential.

COST: \$30 4.0 CEU Credits. Minimum needed to hold session 10

CPD #12

THE PATH TO PROFESSIONAL ENGINEERING LICENSURE

Monday, July 30 – 7:00AM-8:00AM

Location: Dardenelles

Instructor: Christopher Henry, PhD

Sponsored by PEI, ED-414

Target Audience: Engineers who want to become licensed Professional Engineers.

Learning Objectives: How do I become a PE? What is the process, and when should I take the exams? What impact will licensure have on my career? Could I earn more if I have a license? The licensure process and modal law will occur and the impact they will have to the profession. Finally the Principles and Practice exam will be different in 2012, learn how the content of the exam has changed based on the results of the recent task analysis. This session is free. Conducted and sponsored by the Professional Engineering Institute of ASABE.

COST: Free (you must register to attend)

CPD #10

UNDERSTANDING CHANGE IN THE EMERGING CHAOS - THE LINKAGES AMONG TECHNOLOGY, ECONOMICS AND SOCIETAL VALUES

Monday, July 30 – 1:00PM-5:00PM

Location: HS Suite 3

Level of Difficulty: Entry Level


CANCELLED

YPC FUN RUN / WALK / RELAY

SUNDAY, JULY 29

7:00AM-10:00 AM

Sponsored by
the YPC





International Community



The International Affairs Committee of ASAE annually welcomes members and guests from over 40 countries to the ASABE Annual International Meeting. We hope you will enjoy the meeting, find it a very rewarding experience and establish many new contacts and friendships. The International Affairs Committee encourages you to attend the International 601 committee meeting and become involved in our activities.

SUNDAY, JULY 29

ASABE FOUNDATION SILENT AUCTION

Sunday, July 29 – 8:00AM-5:00PM

Location: Grand Ballroom

The ASABE Foundation Silent Auction will be opened for bidding beginning at 10:00AM on Sunday, July 29, and daily 8:00AM-5:00PM through Wednesday, August 1. Bidding ends at 3:00PM on Wednesday.

ASABE WELCOME RECEPTION

Sunday, July 29 – 4:30PM-6:00PM

Location: Grand Ballroom

All meeting registrants are invited to attend our welcome reception. This is a good time to network with other attendees and to make further plans for dinner after the reception. The Dallas Convention and Visitors Bureau will have a representative available to assist you in making your dining reservations.

E#3

WOMEN IN ASABE SOCIAL

Sunday, July 29 – 6:30PM-7:30PM

Location: Presidential Suite

The Women in ASABE social is an informal mixer open to all female ASABE members. Hosted by President Sonia Maassel Jacobsen, this event will provide a unique opportunity to meet, socialize and network with other women members from across ASABE. Refreshments will be served. Registration is required but there is no charge for this event.

ALUMNI RECEPTION OF COLLEGE OF BIOSYSTEMS ENGINEERING AND FOOD SCIENCE, ZHEJIANG UNIVERSITY

Sunday, July 29 – 6:30PM-10:00PM

Location: Batik A

Alumni and visiting professors of College of Biosystems Engineering and Food Science, Zhejiang University, are invited to enjoy a reception at the convention center and catch up with the old friends. Please send email to shaojin_wang@wsu.edu by July 27 if you plan to attend.

MONDAY, JULY 30

E#4

PRAYER BREAKFAST

Monday, July 30 – 6:30AM-8:00AM

Location: Manchester

The Fellowship of Christian Agricultural Engineers invites all meeting registrants, spouses and guests to the interdenominational prayer breakfast. The continental breakfast will begin promptly at 6:30AM and end at 8:00AM. Pre-registration and ticket is required.

COST: \$22.00

GENERAL SESSION / RECOGNITIONS KEYNOTE SPEAKER

Monday, July 30 – 8:00AM-9:30AM

Location: Khmer Ballroom

ASABE President Sonia Maassel Jacobsen welcomes each of you to the ASABE Annual International Meeting. Several members will be recognized for their achievements at this opening session.

We are proud to introduce our keynote speaker, Venkata Sundaram, who is the manager of External Research Collaborations at Nestle Product Technology Centre, York, UK. Mr. Sundaram's presentation is entitled "From Plant to Palate – R&D solutions for delighting consumers with confectionery."

Session #148

CHINA EXCHANGE – INVITED PRESENTATIONS

Monday, July 30 – 2:30PM-5:00PM

Location: Rosetta

Sponsored by: Intl-601, AOCABFE

Moderator: Zhuping Sheng, Texas A&M University

Promoting and facilitating academic and research exchanges among scholars from China and other countries in sustainable agriculture.

2:30PM Introduction

2:35PM Look into the Future and Work Together

Sonia Massel Jacobsen, President, ASABE

2:50PM CSAE'S Role and Practice in Promoting International Exchange and Cooperation in Agricultural Engineering

Yingkuan Wang, Chinese Academy of Agricultural Engineerin

Ming Cui, Chinese Society of Agricultural Engineers

3:05PM Research and International Collaborations of the Arid-Land Agricultural Research Center: Sustaining Agriculture in Water-Limited Environments

Steven E. Naranjo, USDA Arid-Land Agricultural Research Center

3:20PM Review on Research and Application of Precision Agriculture

Chunjiang Zhao, China National Engineering Research Center for Information Technology in Agriculture

3:35PM BREAK

3:45PM An Exciting Time for China-US Collaborations in Sustainable Agriculture

Hongwei Xin, Iowa State University

4:00PM Research and Development on New Irrigation Equipment

Hong Li, Jiangsu University



International Community



- 4:15PM New Opportunities for Farming and Rural Development**
Shu Geng, University of California
- 4:15PM Studies of Wireless Sensor Network in Precision Agriculture**
Minzan Li, China Agricultural University

E#5

ASSOCIATION OF OVERSEAS CHINESE AGRICULTURAL, BIOLOGICAL, AND FOOD ENGINEERS (AOCABFE) ANNUAL BUSINESS MEETING

Monday, July 30 – 5:00PM-10:00PM

Location: Ruby

The AOCABFE annual meeting provides a platform for promoting and facilitating research and educational exchanges among researchers with Chinese origin or associations in the areas of agricultural, biological and food engineering. The ASABE meeting attendees with international collaboration interests are invited to attend the meeting as well. The AOCABFE activities in 2011-2012 will be reviewed and plans of action for 2012-2013 will be discussed. Following the business meeting the members of AOCABFE will be gathering at an off-site location for the awards dinner and an opportunity for socializing and networking. Recognition and awards will be presented at the banquet.

COST: \$65.00

E#12

ASSOCIATION OF AGRICULTURAL, FOOD AND BIOLOGICAL ENGINEERS OF INDIAN ORIGIN (AABFEIO) ANNUAL BUSINESS MEETING

Monday, July 30 – 5:30PM-6:30PM

Location: Opal

This will be the annual business meeting of the Association of Agricultural, Food and Biological Engineers of Indian Origin (AABFEIO). Tentative agenda for this meeting includes presentation and approval of last year's meeting minutes, selection of a new executive committee and other general discussion. This will be followed by dinner at the Mayuri Indian restaurant in Dallas. The dinner is open to anyone.

COST: \$25 member/ \$15 student

E#6

ASSOCIATION OF KOREAN AGRICULTURAL, BIOLOGICAL AND FOOD ENGINEERS (AKABFE) MEETING

Monday, July 30 – 6:30PM-8:00PM

Location: Ming

Association of Korean Agricultural, Biological and Food Engineers will have their first meeting. A business meeting will take place and the Association dinner will follow at a restaurant in downtown Dallas.

COST: \$30.00

TUESDAY, JULY 31

E#7

INTERNATIONAL BREAKFAST

Tuesday, July 31 – 7:00AM-8:30AM

Location: HS Suite 2

The International Breakfast is a great opportunity to interact with peers from many different countries. If you are coming from abroad or have an interest in international issues this is the best place to meet new people and begin long and fruitful working relationships. The speaker for this International Breakfast will be the 2012 recipient of ASABE's prestigious Kishida Award Radhey Lal Kushwaha.

COST: \$22.00

ASABE BUSINESS MEETING

Tuesday, July 31 – 12:30PM-1:15PM

Location: Khmer Ballroom

President President Sonia Maassel Jacobsen and President-Elect Tony Kajewski will preside over the society's update and business meeting.

FUTURE THINKING

– PANEL DISCUSSION & BRAINSTORMING

Tuesday, July 31 – 1:15PM-2:15PM

Location: Khmer Ballroom

Sponsored by: Future Thinking ASABE

Target Audience: All ASABE members, potential ASABE members

Learning Objectives: A forum to share information about the current ASABE structure and the proposed changes

Benefits: This is an opportunity for the general membership to provide input and suggestions for proposed changes to the divisions within ASABE. The results and proposed action from the recently commissioned student engagement, recruitment and retention study will be discussed.

Panelists: Tami Brown-Brandl, USDA ARS
Sherry Hunt, USDA-ARS
Ron McAllister, CNH
Scott Osborn

ORDER OF THE ENGINEER INDUCTION CEREMONY

Tuesday, July 31 – 3:00PM-5:00PM

Location: Verandah Parkview

Engineering graduates and registered engineers are invited to accept the Obligation of the Engineer and a stainless steel ring, which is worn on the little finger of the engineer's working hand. All graduates of ABET-accredited engineering programs; seniors in ABET accredited programs within two academic years of graduation; licensed PEs; and members of the Canadian Calling by reciprocity are invited to join the Order. All inductees must be present to accept their certificate and ring at the induction ceremony. The cost of entering the Order is \$10.00 and inductees may register with Tina Schultz in person at the membership booth at the meeting. Learn more about the Order at <http://www.order-of-the-engineer.org/>.



International Community



ASABE FELLOWS INDUCTION CEREMONY

Tuesday, July 31 – 6:00PM-7:30PM

Location: Khmer Ballroom

All registrants are invited to this special recognition ceremony honoring the 2012 ASABE Fellows. Ten deserving ASABE individuals have been chosen to receive this most prestigious award.

The 2012 ASABE Fellows are:

Ronald W. Brass
Glenn O. Brown
Larry W. Caldwell
Michael J. Delwiche
Harold M. Keener
Kasiviswanathan Muthukumarappan
Carol Plouffe
Itzhak E. Shmulevich
Daniel L. Thomas
Ernest W. Tollner

WEDNESDAY, AUGUST 1

ASABE AWARDS LUNCHEON

Wednesday, August 1 – 12:30PM-2:00PM

Location: Khmer Ballroom

Please join your colleagues and their guests in the event that honors the newly elected Fellows and the recipients of the Society's major awards. We will also recognize students and other ASABE members who have made outstanding contributions to the Society and the profession this

year. Following the awards, 2011-2012 President Sonia Maassel Jacobsen will present the gavel to 2012-2013 ASABE President Tony Kajewski.

ASABE AWARDS:

Pharos of Alexandria Global Learning
Yoerger Preprofessional Engineer of the Year
Robert E. Stewart Engineering-Humanities
Gale A. Holloway Professional Development
New Holland Young Researcher
Young Extension Worker
A.W. Farrall Young Educator
Sunkist Young Designer
McCormick Case Gold Medal
Rain Bird Engineering Concept of the Year
James R. and Karen A. Gilley Academic Leadership
Evelyn E. Rosentreter Standards
PEI Professional Engineer of the Year
Kishida International
Massey-Ferguson Educational Gold Medal
International Food Engineering
ADS/Hancor Soil and Water Engineering
G.B. Gunlgoson Countryside Engineering
Mayfield Cotton Engineering
SMV Technologies Ergonomics, Safety and Health
Advancement of Surface Irrigation
Heermann Sprinkler Irrigation
John Deere Gold Medal

**COST: INCLUDED WITH REGISTRATION;
EXTRA TICKETS \$40.00**



2011 ASABE Fellows



Preprofessional



SUNDAY, JULY 29

OPEN CHAPEL

Sunday, July 29 – 8:00AM-9:00AM

Location: Plum Blossom B

All Preprofessionals and Professionals are invited to attend Open Chapel. Dr. Joe Glass of California Polytech State University will preside over the service.

ASABE FOUNDATION SILENT AUCTION

Sunday, July 29 thru Wednesday, August 1 – 8:00AM-5:00PM

Location: Grand Ballroom

This popular event has always been successful because of the generosity of our members in both donations and bids. Donations from crafty members, gift baskets from Sections and universities as well as, jewelry, wine, tools - you name it - there is something for everyone and every budget. Join in the fun and support a great cause.

The ASABE Foundation Silent Auction will be opened for bidding beginning at 10:00AM on Sunday, August 7 and daily 8:00AM-5:00PM through Wednesday, August 10. Bidding ends at 3:00PM on Wednesday.

FOUNTAIN WARS PRESENTATION JUDGING

SUNDAY, JULY 29 – 9:15AM-11:00AM

Location: Plum Blossom B

Are you interested in the preparation and creative behind the scenes efforts of the different Fountain Wars teams? Come listen to the oral presentation phase of the competition and get a heads up on what is going to be displayed at the building-testing phase that takes place on Monday.

PREPROFESSIONAL DEVELOPMENT SEMINAR

Sunday, July 29 – 11:00AM-12:00PM

Location: Plum Blossom B

A presentation by Virginia Tech's Mary Leigh Wolfe will headline the Preprofessional Development Seminar. Wolfe will discuss resumes, interviewing and professionalism to prepare students for the ASABE career fair on Tuesday, July 31.

INTERNATIONAL PREPROFESSIONAL (IPC) BUSINESS MEETING

Sunday, July 29 – 1:00PM-3:00PM

Location: Plum Blossom B

This is the main event of the International International Preprofessional at AIM 2012. The current IPC officers will share the year's goals and progress and hold roll call. Also on the agenda is the election of 2012-2013 IPC officers. Come represent your school and preprofessional chapter! All students are highly encouraged to come to this function.

Please note that check-in for the poster competition will be done during the meeting. Participants will be dismissed early to set up their posters in the exhibit hall. (Competitors should bring their poster to the meeting.)

UNDERGRADUATE POSTER COMPETITION

Sunday, July 29 – 3:00PM-4:30PM

Location: Plum Blossom B

This undergraduate poster competition encourages Preprofessional ASABE members to interact with industry, faculty, and fellow students by giving a technical poster presentation on an engineering project useful to agriculture and related areas.

Feel free to come browse the posters, engage the students in dialogue about their experiences, or listen to their brief research-poster summary.

Winners of this competition will receive cash awards of \$500, \$300, and \$200 for first, second, and third places, respectively. Registration ends June 20, 2012 for more information contact IPC Secretary Patricia Paulausky at ppaulausky611@gmail.com

ASABE WELCOME RECEPTION

Sunday, July 29 – 4:30PM-6:00PM

Location: Grand Ballroom

All meeting registrants are invited to attend our welcome reception. This is a good time to network with other attendees and to make further plans for dinner after the reception. The Dallas Convention and Visitors Bureau will have a representative available to assist you in making your dining reservations.

FUNDAMENTALS OF ENGINEERING (FE) REVIEW SESSION

Sunday, July 29 – 6:00PM-7:00PM

Location: Plum Blossom B

Are you graduating in the next 12 months? Do you feel unprepared to take the FE? Have you been putting off taking the FE because it is too hard? If you answered YES to any of these questions, come to the FE information and review session to learn what is on the exam and how to master it from people who mastered it themselves. Prizes will be awarded!

WOMEN IN ASABE

Sunday, July 29 – 6:30PM-7:30PM

Location: Presidential Suite

The Women in ASABE social is an informal mixer open to all female ASABE members. Hosted by President Sonia Maassel Jacobsen, this event will provide a unique opportunity to meet, socialize and network with other women members from across ASABE. Refreshments will be served. Registration is required but there is no charge for this event.





Preprofessional



MONDAY, JULY 30

WHAT YOU DIDN'T KNOW ABOUT ASABE

Monday, July 30 – 7:00AM-8:00AM

Location: Ming

Have you ever wondered what happens when there are too few PE examinees? Or are you trying to decide which activities and events to attend while at AIM? We invite you to attend an informational session hosted by the Young Professional Community to introduce new and old members alike to the many opportunities available in ASABE. Topics to be addressed include Professional Licensure, YPC's history since its inception 10 years ago, Communities of ASABE, as well as a preview of events to come so you can make the most of the meeting. Refreshments will be provided. All members, especially first-time meeting attendees and pre-professionals are encouraged to attend.

GENERAL SESSION/RECOGNITIONS

KEYNOTE SPEAKER

Monday, July 30 – 8:00AM-9:30AM

Location: Khmer Ballroom

ASABE President Sonia Maassel-Jacobsen welcomes each of you to the ASABE Annual International Meeting. Our keynote speaker is Venkata Sundaram who is the manager of External Research Collaborations at Nestle Product Technology Centre, York, UK. The title of his presentation is "From Plant to Palate – R&D solutions for delighting consumers with confectionery".

AGCO NATIONAL STUDENT DESIGN COMPETITION

Monday, July 30 – 9:30AM-10:30AM

Location: Manchester

The top three entries for the student design competition have been invited to this oral competition. Listen to these outstanding engineering design project presentations. Winners will be recognized at the Awards Recognition Luncheon on Wednesday.

GUNLOGSON ENVIRONMENTAL DESIGN COMPETITION

Monday, July 30 – 1:30PM-2:30PM

Location: Manchester

The top three entries for the environmental design competition have been invited to this oral competition.

K.K. BARNES STUDENT PAPER COMPETITION

Monday, July 30 – 2:30PM-3:30PM

Location: Manchester

Invitations will be extended to the top three entries in the student paper competition. You can hear the authors of outstanding papers make their presentations. Come support the students from your school who may be participating. Winners will be recognized at the Awards Recognition Luncheon on Wednesday.

FOUNTAIN WARS COMPETITION

Monday, July 30

2:00PM-2:30PM Team Check-In

2:30PM-4:30PM Construction of Fountains

4:30PM-5:00PM Final Construction and Safety Inspection

5:00PM-5:30PM Team Test/Adjustment in Fountain

5:30PM-7:30PM Competition

Location: Anatole Sculpture Park

Fountain Wars is a competition aimed at students in their sophomore and junior years of study. It provides students with hands on experience in engineering design and most importantly the students have a great time. Teams are given two and a half hours to build a fountain that completes two technical tasks and provides an aesthetic display.

BOYD-SCOTT GRADUATE RESEARCH COMPETITION

Monday, July 30 – 7:00PM-9:00PM

Location: Manchester

The Graduate Student Research Award (GSRA) Competition sets out to recognize excellence in the conduct and presentation of agricultural and biological engineering research carried out by graduate student members. The competition is held in two parts: a written competition and an oral presentation competition for the top three finalists in the M.S. and Ph.D. categories, which is held at the ASABE Annual International Meeting.



FOUNTAIN WARS COMPETITION

MONDAY, JULY 30

Location: Anatole Sculpture Park

2:00PM-2:30PM Team Check-In

2:30PM-4:30PM Construction of Fountains

4:30PM-5:00PM Final Construction and Safety Inspection

5:00PM-5:30PM Team Test/Adjustment in Fountain

5:30PM-7:30PM Competition



Preprofessional



IPC PREPROFESSIONAL GATHERING

Monday, July 30 – 7:00PM – 11:00PM

Location: TBA - Watch the Message Board

Students are invited to attend a social outing with your IPC officers and students from other schools. Location has yet to be decided, but it will be sure to be a good time.

TUESDAY, JULY 31

ASABE ROBOTICS STUDENT DESIGN COMPETITION – DEMONSTRATIONS

Tuesday, July 31

8:00AM-10:00AM Demonstrations

10:00AM-12:00PM Presentations

Location: Grand Ballroom

The ASABE Robotics Competition is a student design competition that was conceived in 2006. The aim of the competition is to encourage undergraduate as well as graduate students to develop innovative robotic solutions to real life problems in the agricultural arena. The competition travels with the Annual International Meeting, and hence, the solutions must allow transportation in airplanes. The challenge will be communicated through the website and digital flyers describing the rules, requirements, limitations, deadlines and demonstration procedures.

The competition is open to students in one or more departments from a single University. There is no maximum number of team members per team, so multiple teams from a single University are allowed. Every team should have a faculty advisor who is also the contact person with ASABE. There are no classes or leagues, every team will work on the same Challenge. There are no limits to the budget. Teams are encouraged to obtain funding for their solutions and participation through on-campus resources such as departmental sources and Engineering Councils, as well as from companies.

The solutions must be developed at the departments, and demonstrated at the ASABE Annual International Meeting. The requirements are that the teams demonstrate their solutions, give a presentation, and write a report. The teams' performances will be judged by three judges from Industry as well as Academia. Come and join us! The deadline for entries is July 15, 2012.

For more information visit: <http://abe-research.illinois.edu/ASABERobotics/2011/ASABERoboticsCompetition2011.html>

ASABE CAREER FAIR

Tuesday, July 31 – 9:30AM-12:00PM

Location: Grand Ballroom

The Career Fair is just one of the many highlights of the ASABE Annual International Meeting. It is an outstanding networking opportunity that allows interested individuals to connect with Fortune 500 companies, agricultural and bio-based businesses, bio-research companies and major land grant universities looking for qualified candidates.

The ASABE Career Fair provides an opportunity for employee and potential employees to come together informally and share information. Academia will also be represented with opportunities at the masters and

doctoral level. Employers register their job positions at the registration desk and receive an interview table number. These openings are posted with the table numbers located near the ASABE registration desk for review. Prospective employees are invited to seek out employers of interest and exchange information.

There is no additional fee for participating in the Career Fair. A minimum of one-day registration is required.

ASABE BUSINESS MEETING

Tuesday, July 31 – 12:30PM-1:15PM

Location: Khmer Ballroom

President Sonia Maassel Jacobsen and President-Elect Tony Kajewski will preside over the society's update and business meeting.

FUTURE THINKING

– PANEL DISCUSSION & BRAINSTORMING

Tuesday, July 31 – 1:15PM-2:15PM

Location: Khmer Ballroom

Sponsored by: Future Thinking ASABE

Target Audience: All ASABE members, potential ASABE members

Learning Objectives: A forum to share information about the current ASABE structure and the proposed changes

Benefits: This is an opportunity for the general membership to provide input and suggestions for proposed changes to the divisions within ASABE. The results and proposed action from the recently commissioned student engagement, recruitment and retention study will be discussed.

Panelists:

Tami Brown-Brandl, USDA ARS

Sherry Hunt, USDA-ARS

Ron McAllister, CNH

Scott Osborn

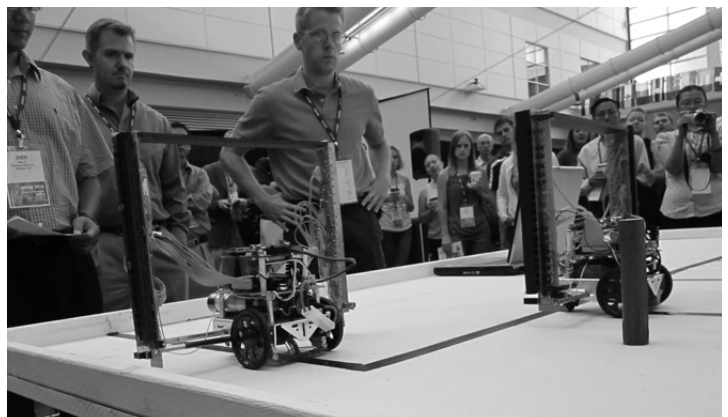
WEDNESDAY, AUGUST 1

AWARDS LUNCHEON

Wednesday, August 1 – 12:30PM-2:00PM

Location: Khmer Ballroom

Plan to attend the most important recognition event of the year. The installation of ASABE's 2012 President Tony Kajewski will immediately follow the awards presentation.





Young Professional's Community



SATURDAY, JULY 28

T#1

YPC MESQUITE RODEO SOCIAL OUTING

Saturday, July 29 – 6:00PM-11:00PM

Join the YPC for a fun filled evening at the Mesquite Rodeo. The rodeo is sure to impress with bull riding, bareback riding, saddle bronc riding, steer wrestling, calf roping, team roping, and barrel racing. An all you can eat BBQ meal is provided with the event. This is a family friendly event with spouses and guests encouraged to attend.

COST: \$60.00

SUNDAY, JULY 29

E#1

YPC FUN RUN/WALK/RELAY

Sunday, July 29 – 7:00AM-10:00AM

The 7th Annual Young Professional Community Fun Run/Walk will be a relay event this year. So start practicing your cross-training because there will be more than running/walking this year! All proceeds benefit the YPC efforts in increasing young member retention. Runners will meet at the registration desk the morning of the run.

COST: \$20.00

YPC ALL IN GOOD FUN CONTEST

Sunday, July 29-Monday, July 30

This is a great way to support the Young Professionals Community while laughing with (and at) your fellow engineers! This year, contestants will compete in a "Remember the Alamo" themed contest. Stop by the YPC booth to say hello and donate to your favorite contestant! Finals will be held right before the Fountain Wars competition.

ASABE FOUNDATION SILENT AUCTION

Sunday, July 29 thru Wednesday, August 1 – 8:00AM-5:00PM

Location: Grand Ballroom

This popular event has always been successful because of the generosity of our members in both donations and bids. Donations from crafty members, gift baskets from Sections and universities as well as, jewelry,



wine, tools - you name it - there is something for everyone and every budget. Join in the fun and support a great cause.

The ASABE Foundation Silent Auction will be opened for bidding beginning at 10:00AM on Sunday, August 7 and daily 8:00AM-5:00PM through Wednesday, August 10. Bidding ends at 3:00PM on Wednesday.

E#11

GALE A. HOLLOWAY MEMORIAL GOLF OUTING

Sunday, July 29 – 9:00AM-1:00PM

Let's set the scene - the meeting is about to begin and there is no better way to get you in the mood than by getting outside and swinging those clubs on Sunday morning. The Gale A. Holloway Memorial Golf Outing will be on Sunday morning, July 29. Prepare yourself for an unparalleled golfing experience! Stevens Park Golf Course provides fun, but challenging play to golfers of all skill levels. With rolling fairways, strategic water hazards and white-sand bunkers, we have everything you need to test your game. Be sure to add this fun event to your AIM registration form.

COST: \$100.00

CE#9

SOFT SKILLS FOR ENGINEERS – WHAT THEY ARE AND WHY THEY ARE IMPORTANT

Sunday, July 29 – 12:30PM-4:30PM

Location: Monte Carlo

Level of Difficulty: Entry Level

Instructors: Dr. Michael Boyette, Ph.D., P.E.

Target Audience: YPC members and anyone looking to improve their "soft engineering" skills.

Learning Objectives: Understand and develop the soft or non-technical skills required to be a successful engineer.

Benefits: Better understanding of your personal and administrative limitations to reach your full engineering potential.

COST: \$30 4.0 CEU Credits.

Minimum needed to hold session 10

ASABE WELCOME RECEPTION

Sunday, July 29 – 4:30PM-6:00PM

Location: Grand Ballroom

All meeting registrants are invited to attend our welcome reception. This is a good time to network with other attendees and to make further plans for dinner after the reception. The Dallas Convention and Visitors Bureau will have a representative available to assist you in making your dining reservations.

E#3

WOMEN IN ASABE SOCIAL

Sunday, July 29 – 6:30PM-7:30PM

Location: Presidential Suite

The Women in ASABE social is an informal mixer open to all female ASABE members. Hosted by President Sonia Maassel Jacobsen, this event will provide a unique opportunity to meet, socialize and network with other women members from across ASABE. Refreshments will be served. Registration is required but there is no charge for this event.



Young Professional's Community



MONDAY, JULY 30

WHAT YOU DIDN'T KNOW ABOUT ASABE

Monday, July 30 – 7:00AM-8:00AM

Location: Ming

Have you ever wondered what happens when there are too few PE examinees? Or are you trying to decide which activities and events to attend while at AIM? We invite you to attend an informational session hosted by the Young Professional Community to introduce new and old members alike to the many opportunities available in ASABE. Topics to be addressed include Professional Licensure, YPC's history since its inception 10 years ago, Communities of ASABE, as well as a preview of events to come so you can make the most of the meeting. Refreshments will be provided. All members, especially first-time meeting attendees and pre-professionals are encouraged to attend.

CPD #12

THE PATH TO PROFESSIONAL ENGINEERING LICENSURE

Monday, July 30 – 7:00AM-8:00AM

Location: Dardenelles

Instructor: Christopher Henry, PhD

Sponsored by PEI, ED-414

Target Audience: Engineers who want to become licensed Professional Engineers.

Learning Objectives: How do I become a PE? What is the process, and when should I take the exams? What impact will licensure have on my career? Could I earn more if I have a license? The licensure process and modal law will occur and the impact they will have to the profession. Finally the Principles and Practice exam will be different in 2012, learn how the content of the exam has changed based on the results of the recent task analysis. This session is free. Conducted and sponsored by the Professional Engineering Institute of ASABE.

COST: Free (you must register to attend)

GENERAL SESSION/RECOGNITIONS

KEYNOTE SPEAKER

Monday, July 29 – 8:00AM-9:30AM

Location: Khmer Ballroom

ASABE President Sonia Massel-Jacobsen welcomes each of you to the ASABE Annual International Meeting. Our keynote speaker is Venkata Sundaram who is the manager of External Research Collaborations at Nestle Product Technology Centre, York, UK. The title of his presentation is "From Plant to Palate – R&D solutions for delighting consumers with confectionery".

T#3

YPC COWBOYS STADIUM TECHNICAL TOUR

Monday, July 30 – 1:00PM-5:00 PM

Join YPC for a technical tour of Cowboys Stadium. The stadium is the world's largest domed structure featuring 2 arches almost 1/4 mile in length. This is a family friendly event that includes a tour of the press boxes, postgame interview room, locker rooms, and field. Comfortable walking shoes are recommended for the tour.

COST: \$45 includes transportation, entrance, and guide.

TUESDAY, JULY 31

Session #224

AGRICULTURAL AND BIOLOGICAL ENGINEERING: THE EVOLUTION OF A DEGREE

Tuesday, July 31 – 7:30AM-9:30AM

Location: Opal

Come learn the latest updates from the ASABE education committee on curriculum, department and degree name changes and the direction the departments are taking. Discover how these updates could impact you as a Young Professional or future graduate in ASABE and have an opportunity to engage committee members by providing feedback and concerns on these topics. Also, find out how these changes will influence the companies or institutions you work for or will work for in the future.

T#4

YPC MRS. BAIRDS FACTORY TOUR

Tuesday, July 31 – 10:00AM-1:00PM

Join the YPC for a tour of Mrs. Baird's Bread Factory. Mrs. Baird's celebrated over 100 years of baking history in 2008. Mrs. Baird's is one of the few remaining family-owned bakeries in the entire nation. Attire for those attending this event is long pants, closed-toed shoes (no flip-flops or sandals) and no jewelry. This is a family friendly event, with spouses and guests encouraged to attend.

COST: \$30 includes transportation and guide

ASABE CAREER FAIR

Tuesday, July 31 – 9:30AM-12:00PM

Location: Grand Ballroom

The Career Fair is just one of the many highlights of the ASABE Annual International Meeting. It is an outstanding networking opportunity that allows interested individuals to connect with Fortune 500 companies, agricultural and bio-based businesses, bio-research companies and major land grant universities looking for qualified candidates.

The ASABE Career Fair provides an opportunity for employee and potential employees to come together informally and share information. Academia will also be represented with opportunities at the masters and doctoral level. Employers register their job positions at the registration desk and receive an interview table number. These openings are posted with the table numbers located near the ASABE registration desk for review. Prospective employees are invited to seek out employers of interest and exchange information.

There is no additional fee for participating in the Career Fair. A minimum of one-day registration is required.

ASABE BUSINESS MEETING

Tuesday, July 31 – 12:30PM-1:15PM

Location: Khmer Ballroom

President Sonia Maassel Jacobsen and President-Elect Tony Kajewski will preside over the society's update and business meeting.



Young Professional's Community



FUTURE THINKING

– PANEL DISCUSSION & BRAINSTORMING

Tuesday, July 31 – 1:15PM-2:15PM

Location: Khmer Ballroom

Sponsored by: Future Thinking ASABE

Target Audience: All ASABE members, potential ASABE members

Learning Objectives: A forum to share information about the current ASABE structure and the proposed changes

Benefits: This is an opportunity for the general membership to provide input and suggestions for proposed changes to the divisions within ASABE. The results and proposed action from the recently commissioned student engagement, recruitment and retention study will be discussed.

Panelists: Tami Brown-Brandl, USDA ARS
Sherry Hunt, USDA-ARS
Ron McAllister, CNH
Scott Osborn

T#6

YPC SOUTHFORK RANCH TOUR

Tuesday, July 31 – 2:00PM-4:00PM

We encourage all meeting participants and guests to join YPC on a tour of one of the most famous ranches in Texas. No visit to Dallas is complete without seeing the legendary Southfork Ranch. For thirteen years, television sets were tuned into 356 episodes of “Dallas,” one of the longest running series in television history. Today, Southfork continues to welcome visitors to see where “Dallas” was filmed and to experience the lifestyle made famous by the Ewings.

You will have a guided tour of the famed Ewing Mansion and re-live exciting moments from the series in the “Dallas Legends” exhibit, featuring an exciting array of memorabilia from the series, including the gun that shot J.R., Lucy’s Wedding Dress, the “Dallas” Family Tree, and Jock’s Lincoln Continental. Time is allowed to stroll on the ranch grounds, eat at Miss Ellie’s Deli, or shop in two themed retail stores, offering a diverse selection of clothing, accessories, gifts, and collectibles.

Cost: \$40 includes transportation, entrance, and guide.

ORDER OF THE ENGINEER INDUCTION CEREMONY

Tuesday, July 31 – 3:00PM-5:00PM

Location: Verandah Parkview

Engineering graduates and registered engineers are invited to accept the Obligation of the Engineer and a stainless steel ring, which is worn on the little finger of the engineer’s working hand. All graduates of ABET accredited engineering programs; seniors in ABET accredited programs within two academic years of graduation; licensed PEs; and members of the Canadian Calling by reciprocity are invited to join the Order.

All inductees must be present to accept their certificate and ring at the induction ceremony. The cost of entering the Order is \$10.00 and inductees may register with Tina Schultz at schultz@asabe.org before the meeting or in person at the membership booth at the meeting. Learn more about the Order here - <http://www.order-of-the-engineer.org/>.

YOUNG PROFESSIONAL’S COMMUNITY BUSINESS MEETING

Tuesday, July 31 – 5:00PM-6:00PM

Location: Wyeth

The Young Professional Community annual business meeting is open to all YPC members. If you have a bachelor’s degree and are under the age of 35, you’re a member! Please come to discuss YPC activities, strategic goals, and meet your fellow YP’ers.

ASABE FELLOWS INDUCTION CEREMONY

Tuesday, July 31 – 6:00PM-7:30PM

Location: Khmer Ballroom

All ASABE attendees are invited to this special recognition ceremony honoring the 2012 ASABE Fellows – the most distinguished honor given to ASABE members. Join us at the reception immediately following the ceremony.

ASABE FOUNDATION DINNER AT DELANEY VINEYARDS

Tuesday, July 31 – 7:15PM-10:30PM

Join the ASABE Foundation, as it hosts a benefit dinner at the beautiful Delaney Vineyards and Winery. The winery was completed in 1996, three years after the vineyard was planted, and the first bottling production took place in 1997. The facility contains 10 lush acres of Cynthiana grapes, the best southern-bred hybrid vine to grow in the area. Guests will be treated to a stimulating lecture by Dr. William McGlynn, horticultural food scientist at the Oklahoma State University, who will present “Flavors in Balance.” His talk will provide a basic introduction to understanding how our senses work to shape our perceptions of what we eat and drink, a simple primer on wine tasting techniques and terminology, and some guidelines for matching wine and food flavors. Dinner and transportation to and from the winery—and the company of some great folks—are all included

COST: \$100 per person

WEDNESDAY, AUGUST 1

AWARDS LUNCHEON

Wednesday, August 1 – 12:30PM-2:00PM

Location: Khmer Ballroom

Plan to attend the most important recognition event of the year. The installation of ASABE’s 2012 President Tony Kajewski will immediately follow the awards presentation.



Spouse/Guest Program



Spouse Guest Lounge

Location: HS Suite 1

Hours:

MONDAY – 8:30AM-5:00PM

TUESDAY – 8:00AM-5:00PM

WEDNESDAY – 8:00AM-5:00PM

SATURDAY, JULY 28

T#1

MESQUITE RODEO AND BARBECUE

Saturday, July 28 – 6:00PM-11:00 PM

A trip to Dallas is not complete without seeing a rodeo and eating barbecue! Join the YPC for a fun filled evening at the Mesquite Rodeo. The rodeo is sure to impress with bull riding, bareback riding, saddle bronco riding, steer wrestling, calf roping, team roping, and barrel racing. Plus, an all-you-can-eat BBQ meal is provided with the event. This is a family friendly event with spouses and guests encouraged to attend.

COST: \$60 includes transportation, rodeo and meal.

SUNDAY, JULY 29

ASABE FOUNDATION SILENT AUCTION

Sunday, July 29 thru Wednesday, August 1 – 8:00AM-5:00PM

Location: Grand Ballroom

The ASABE Foundation Silent Auction will be opened for bidding beginning at 10:00AM on Sunday, July 29 and daily 8:00AM-5:00PM through Wednesday, August 1. Bidding ends at 3:00PM on Wednesday.

E#11

GALE A. HOLLOWAY MEMORIAL GOLF OUTING

Sunday, July 29 – 9:00AM-1:00PM

Let's set the scene - the meeting is about to begin and there is no better way to get you in the mood than by getting outside and swinging those clubs on Sunday morning. The Gale A. Holloway Memorial Golf Outing will be on Sunday morning, July 29. Prepare yourself for an unparalleled golfing experience! Stevens Park Golf Course provides fun, but challenging play to golfers of all skill levels. With rolling fairways, strategic water hazards and white-sand bunkers, we have everything you need to test your game. Be sure to add this fun event to your AIM registration form.

COST: \$100.00

T#2

Dallas Dazzles City Tour

Sunday, July 29 – 1:00PM-4:00 PM

This world-renowned city features a rare blend of modern sophistication, southwest warmth, and cosmopolitan flair. Enjoy this driving tour as you learn more about Dallas history, how Dallas got its name and why it was founded on the banks of the Trinity River. See Victory Park and this area just west of downtown that is newly developed. Also visit the West End Historic District with an opportunity to explore the Grassy Knoll, the site of the assassination of President John F. Kennedy. Discover Pioneer Plaza and the larger than life bronze sculpture that commemorates the Shawnee Trail, as well as landmarks on Main Street. Drive through the Arts District, and some of Dallas' trendiest neighborhoods including Uptown and the exciting West Village. This comprehensive overview will introduce you to Dallas and some of the local hotspots, landmarks, cultural venues, and places for dining, nightlife and shopping that you can explore more fully during your visit.

COST: \$35 includes transportation and guide.

ASABE WELCOME RECEPTION

Sunday, July 29 – 4:30PM-6:00PM

Location: Grand Ballroom

All meeting registrants are invited to attend our welcome reception. This is a good time to network with other attendees and to make further plans for dinner after the reception. The Dallas Convention and Visitors Bureau will have a representative available to assist you in making your dining reservations.

OKLAHOMA STATE BAE ALUMNI AND FRIENDS

Sunday, July 29 – 6:30PM-8:30PM

Alumni and friends of the Biological and Agricultural Engineering Department at Oklahoma State University invite you to join them in a social scheduled at Sonny Bryan's Smokehouse, 302 N Market St #101 in Dallas. For more information about cost or anything else, please contact Rachel Felice at Rachel.carson@okstate.edu

MONDAY, JULY 30

E#4

PRAYER BREAKFAST

Monday, July 30 – 6:30AM-8:00AM

Location: Manchester

The Fellowship of Christian Agricultural Engineers invites all meeting registrants, spouses and guests to the interdenominational prayer breakfast. The continental breakfast will begin promptly at 6:30AM and end at 8:00AM. Pre-registration and ticket is required.

COST: \$22.00



Spouse/Guest Program



GENERAL SESSION / RECOGNITIONS KEYNOTE SPEAKER

Monday, July 30 – 8:00AM-9:30AM

Location: Khmer Ballroom

ASABE President Sonia Maassel Jacobsen welcomes each of you to the ASABE Annual International Meeting. Our keynote speaker is Venkata Sundaram the manager of External Research Collaborations at Nestle Product Technology Centre, York, UK. The title of his presentation is “From Plant to Palate – R&D solutions for delighting consumers with confectionery.”

SPOUSE/GUEST SHOW & TELL HOUR

Monday, July 30 – 9:00AM-10:00AM

Location:

Spouses and Guests will meet in their lounge for about an hour to share quilting and craft items with each other. After the Show and Tell we can then walk together to the Spouse/Guest Brunch.

SPOUSE / GUEST BRUNCH

Monday, July 30 – 10:30AM-12:00PM

Gather with old friends and new acquaintances during the spouse/guest brunch. This event is open to anyone interested in this opportunity to connect with other guests of attendees and we welcome you. Enjoy a great mid-morning meal in a beautiful location while you have the chance to get to know others who are attending from all over the World! And, be mesmerized by stories about Texas Dames! Hear Carmen Goldthwaite, Storyteller, Author, Journalist and Teacher, relate stories about women who came to Texas, who were born in Texas, who shaped Texas history, who stirred up Texas. These are stories she gathered while crisscrossing the state, listening to her mother’s stories of families and pioneers, prowling through libraries, archives, and courthouses. Their lives and their stories span Texas from the Rio Grande to the Red River, the Sabine River to the lands of New Mexico, from old cities to tiny villages, from the 1600’s to today. Without these women, Texas’ luster would be dimmer.

The Fort Worth native and a 7th generation Texan, Carmen Goldthwaite writes and tells the stories about the Texas she loves for Wild West and True West magazines. Fascinated by the distaff roles, she’s written Texas women’s stories for anthologies, such as *The Way West*, a 2005 Tor-Forge book and *Wild Women of the Old West*, a 2003 anthology from Fulcrum Publishing and her upcoming book, *Texas Dames, Sassy and Savvy*, a statewide column, “Texas Dames,” of the stories of Texas women who’ve pioneered in many roles and along many paths in Texas history. She’s honored her mother in an essay, “Burgers and Butterflies,” that will be published in *Chicken Soup of the Soul: The Magic of Mothers and Daughters*, available in bookstores March 2012.

COST: Included with the Spouse/Guest Registration Fee.
Additional guests may attend at an inclusive cost of \$50

T#3

DALLAS COWBOYS STADIUM TOUR

Monday, July 30 – 1:00PM-5:00PM

All meeting participants and guests are invited to join YPC for a technical tour of Cowboys Stadium. The innovative architecture of this stadium features the world’s largest domed structure with 2 arches almost 1/4 mile in length and a retractable roof. It is a monumental building combines imagination and respect for tradition. This is a family friendly event that includes a tour of the press boxes, postgame interview room, locker rooms, and playing field. Comfortable walking shoes are recommended.

COST: \$45 includes transportation, entrance, and guide.

YPC ALL IN GOOD FUN CONTEST

Monday, July 30 – 1:00PM-5:00PM

Location: Grand Ballroom

This is a great way to support the Young Professionals Community while laughing with (and at) your fellow engineers! This year, contestants will compete in a “Remember the Alamo” themed contest. Stop by the YPC booth to say hello and donate to your favorite contestant! Finals will be held right before the Fountain Wars competition.

ENGLISH PAPER PIECING DEMONSTRATION

Monday, July 30 – 3:00PM-3:45PM

Location: Spouse/Guest Lounge

Instructor: Becky Herron

Ever wonder how to hand piece small intricate shapes together and get an accurate finished block. Come join this fun and relaxing time as we explore the technique of English Paper Piecing. You will complete a 4 inch Grandmother’s Flower Garden block. All supplies will be provided with the project. Warning: This activity is addicting and contagious.

COST: \$5

FOUNTAIN WARS COMPETITION

Monday, July 30 – 5:30PM-7:30PM

Location: Anatole Sculpture Park

Fountain Wars is a competition aimed at students in their sophomore and junior years of study. It provides students with hands on experience in engineering design and most importantly the students have a great time. Teams are given two and a half hours to build a fountain that completes two technical tasks and provides an aesthetic display.

TEXAS A&M UNIVERSITY RECEPTION

Monday, July 30 – 6:30PM-8:00PM

Make plans to attend the Texas A&M University reception which will be held at the West End Hoffbrau Steaks located at 311 N. Market Street from 6:30PM to 8:00PM. Shuttle service will be available from the Hilton Anatole.



Spouse/Guest Program



KANSAS STATE UNIVERSITY ALUMNI RECEPTION

Monday, July 30 – 7:00PM-9:00PM

Location: HS Suite 2

Alumni and friends are invited to renew friendships, revisit design legacies, and learn about some unique opportunities within the Biological and Agricultural Engineering Department. Faculty and students will be available to provide departmental updates and share happenings at Kansas State University and in Manhattan (Aggieville).

UNIVERSITY OF ILLINOIS ALUMNI AND FRIENDS RECEPTION

Monday, July 30 – 7:30PM-10:00PM

Location: Carpenter Ballroom

Alumni and friends of the University of Illinois Department of ABE are invited to attend. We will feature a hosted bar and snacks. Please come and share this opportunity to visit and hear what is new with the Orange and blue I-L-L-I-N-I!

VIRGINIA TECH ALUMNI & FRIENDS SOCIAL

Monday, July 30 – 8:00PM-10:00PM

Location: HS Suite 1

The Biological Systems Engineering Department at Virginia Tech cordially invites alumni and friends to this gathering on Monday evening. Come enjoy some refreshments and catch up on the latest happenings in the department and at Virginia Tech!

TUESDAY, JULY 31

PURDUE BREAKFAST

Tuesday, July 31 – 7:00AM-8:00AM

Location: Ming

Purdue University's Dean of Agriculture, the Agricultural and Biological Engineering Department, and the Engineering Alumni Association invite all alumni and friends to their complimentary breakfast. Reservations are required!! Call 765-494-1162, fax 765-496-1115, or email peerb@purdue.edu.

E#8

PENN STATE UNIVERSITY ALUMNI BREAKFAST

Tuesday, July 31 – 7:00AM-8:30AM

Location: Manchester

This event is open to all alumni, students, current employees, and friends of The Pennsylvania State University, sponsored by the Penn State Department of Agricultural and Biological Engineering. Come join us for the opportunity to meet old friends, faculty students, and to get updated on current happenings in the ABE department. All guests are eligible to win door prizes.

COST: \$12.00

E#7

INTERNATIONAL BREAKFAST

Tuesday, July 31 – 7:00AM-8:30AM

Location: HS Suite 2

The International Breakfast is a great opportunity to interact with peers from many different countries. If you are coming from abroad or have an interest in international issues this is the best place to meet new people and begin long and fruitful working relationships. The speaker for this International Breakfast will be the 2011 recipient of ASABE's prestigious Kishida Award.

COST: \$22.00

E#9

MICHIGAN STATE UNIVERSITY BREAKFAST

Tuesday, July 31 – 7:00AM-9:00AM

Location: Verandah Parkview

Join the Michigan State University Alumni and friends for breakfast.

COST: \$10.00

ASABE ROBOTICS STUDENT DESIGN COMPETITION - DEMONSTRATIONS

Tuesday, July 31 – 8:00AM-10:00AM

Location: Grand Ballroom

The American Society of Agricultural & Biological Engineers (ASABE) Robotics Competition is a student design competition that was conceived in 2006. The aim of the competition is to encourage undergraduate as well as graduate students to develop innovative robotic solutions to real life problems in the agricultural arena. The competition travels with the Annual International Meeting, and hence, the solutions must allow transportation in airplanes. The challenge will be communicated through the website and digital fliers describing the rules, requirements, limitations, deadlines and demonstration procedures.

T# 4

BAIRD'S BREAD FACTORY TOUR

Tuesday, July 31 – 10:00AM-1:00PM

Join the YPC for a tour of Mrs. Baird's Bread Factory. Mrs. Baird's celebrated over 100 years of baking history in 2008. Smell the fresh-baked bread and see a real bakery in action. Even today, with the latest technology, Mrs. Baird's does not take short cuts in the baking process. From start to finish, it still takes 6 hours to make a loaf of bread! That's been a part of Mrs. Baird's recipe for over 100 years. Mrs. Baird's is one of the few remaining family-owned bakeries in the entire nation. See what makes them so successful! Attire for those attending this event: long pants, closed-toed shoes (no flip-flops or sandals) and no jewelry. This is a family friendly event, with spouses and guests encouraged to attend.

COST: \$30 includes transportation and guide.



Spouse/Guest Program



T#5

QUILTING AND SHOPPING IN HISTORIC DOWNTOWN CARROLLTON

Tuesday, July 31 – 9:30AM-1:30PM

Travel to Historic Downtown Carrollton and feel the history of a town established on this exact spot in the 1800s. For the quilters and crafters in the group, The Old Craft Store has planned a hand stitching craft suitable for all ability levels that we can complete during our visit. There will also be time to shop for quilting craft supplies.

For those in the group who prefer not to participate in the quilting activity, and for the quilters after completing their craft, experience the Old West as you stroll around this charming town and browse in distinctive and eclectic shops that offer many exciting and distinguished items not found elsewhere. There are also several unique restaurants available to enjoy a snack or lunch on your own.

Visit these websites to see more about Carrollton and the Old Craft Store: The Old Craft Store <http://www.theoldcraftstore.com/>
Downtown Carrollton <http://www.historicdowntowncarrollton.com/>
COST: \$30 includes transportation and quilting activity; \$23 for tour without quilting activity

T#6

SOUTHFORK RANCH

Tuesday, July 31 – 1:00PM-5:00PM

We encourage all meeting participants and guests to join YPC on a tour of one of the most famous ranches in Texas. No visit to Dallas is complete without seeing the legendary Southfork Ranch. For thirteen years, television sets were tuned into 356 episodes of “Dallas,” one of the longest running series in television history. Today, Southfork continues to welcome visitors to see where “Dallas” was filmed and to experience the lifestyle made famous by the Ewings.

You will have a guided tour of the famed Ewing Mansion and re-live exciting moments from the series in the “Dallas Legends” exhibit, featuring an exciting array of memorabilia from the series, including the gun that shot J.R., Lucy’s Wedding Dress, the “Dallas” Family Tree, and Jock’s Lincoln Continental. Time is allowed to stroll on the ranch grounds, eat at Miss Ellie’s Deli, or shop in two themed retail stores, offering a diverse selection of clothing, accessories, gifts, and collectibles

COST: \$40 includes transportation, entrance, and guide.,

ENGLISH PAPER PIECING DEMONSTRATION

Tuesday, July 30 – 3:00PM-3:45PM

Location: Spouse/Guest Lounge

Instructor: Becky Herron

Ever wonder how to hand piece small intricate shapes together and get an accurate finished block. Come join this fun and relaxing time as we explore the technique of English Paper Piecing. You will complete a 4 inch Grandmother’s Flower Garden block. All supplies will be provided with the project. Warning: This activity is addictive and contagious.

COST: \$5

ORDER OF THE ENGINEER INDUCTION CEREMONY

Tuesday, July 31 – 3:00PM-5:00PM

Location: Verandan Parkview

Engineering graduates and registered engineers are invited to accept the Obligation of the Engineer and a stainless steel ring, which is worn on the little finger of the engineer’s working hand. All graduates of ABET accredited engineering programs; seniors in ABET accredited programs within two academic years of graduation; licensed PEs; and members of the Canadian Calling by reciprocity are invited to join the Order. All inductees must be present to accept their certificate and ring at the induction ceremony.

ASABE FELLOWS INDUCTION CEREMONY

Tuesday, July 31 – 6:00PM-7:30PM

Location: Khmer Ballroom

All registrants are invited to this special recognition ceremony honoring the 2012 ASABE Fellows. Ten deserving ASABE individuals have been chosen to receive this most prestigious award.

IOWA STATE UNIVERSITY ABE RECEPTION

Tuesday, July 31 – 7:00PM-8:00PM

Location: Manchester

Meet your old friends and make new friends and find out what is happening in the Department of Agricultural and Biosystems Engineering at Iowa State University.

E#10

ASABE FOUNDATION DINNER AT DELANEY VINEYARDS

Tuesday, July 31 – 7:15PM-10:30PM

Join the ASABE Foundation on Tuesday evening, July 31, as it hosts a benefit dinner at the beautiful Delaney Vineyards and Winery in—yes, really—Grapevine, Tex. The winery was completed in 1996, three years after the vineyard was planted, and the first bottling production took place in 1997. The facility contains 10 lush acres of Cynthiana grapes, the best southern-bred hybrid vine to grow in the area. Guests will be treated to a stimulating lecture by Dr. William McGlynn, horticultural food scientist at the Oklahoma State University, who will present “Flavors in Balance.”

COST: \$100 includes dinner, transportation to and from the winery.

WEDNESDAY, AUGUST 1

ASABE FOUNDATION SILENT AUCTION

Wednesday, August 1 – 8:00AM-3:00PM

Location: Grand Ballroom

The ASABE Foundation Silent Auction will be opened for bidding beginning at 10:00AM on Sunday, July 29 and daily 8:00AM-5:00PM through Wednesday, August 1. Bidding ends at 3:00PM on Wednesday.



Spouse/Guest Program



T#7

SPOTLIGHT ON JFK – DEALEY PLAZA AND THE SIXTH FLOOR MUSEUM

Wednesday, August 1 – 9:00AM-12:00PM

The assassination of President John F. Kennedy on November 22, 1963 was a dark day in Dallas and the world. This in-depth tour will provide some insight into the events surrounding the assassination. Stop at Dealey Plaza to see the actual motorcade route, placement of witnesses and where the Zapruder film was made. Visit The Sixth Floor Museum, located in the former Texas School Depository and have a tour of the educational exhibit that examines the life, death and legacy of John F. Kennedy.

COST: \$50 includes transportation, guide and entrance & audio tour at Sixth Floor Museum. Note: this tour is not available to the general public and includes certified tour guides.

ALA

ASABE AWARDS LUNCHEON

Wednesday, August 1 – 12:30PM-2:00PM

Location: Khmer Ballroom

Please join your colleagues and their guests in the event that honors the newly elected Fellows and the recipients of the Society's major awards. We will also recognize students and other ASABE members that have made outstanding contributions to the Society and the profession this year. Following the awards, 2011-2012 President Sonia Maassel Jacobsen will present the gavel to 2012-2013 ASABE President Tony Kajewski.

**COST: INCLUDED WITH REGISTRATION;
EXTRA TICKETS \$40.00**



SAVE THE DATE!

2013 ASABE Annual International Meeting

July 21-24, 2013
Kansas City, Missouri



Photos courtesy of Kansas City Convention & Visitors Association



Technical Sessions



Sunday, July 29 - 1:00PM-3:00PM

SESSION Sunday

IMPACTS OF GREENHOUSE GAS LEGISLATION - RAP SESSION

Moderator: Catherine Nash, USDA NRCS
LOCATION: BATIK A

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

SESSION 101

HANDLING, STORAGE, TRANSPORTATION AND PROCESSING OF BIOMASS FEEDSTOCKS - Sponsored by PM-23/7/2, FPE-702, FPE-703, PM-43

Moderator: Philippe Savoie, Agriculture and Agri-Food Canada, Quebec, QC, Canada

LOCATION: BATIK A

| Time | Paper # | Title/Authors |
|--------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121338481 | Introduction Upscaling of lignocellulosic feedstock size reductions and general comminution law Zewei Miao, University of Illinois at Urbana-Champaign, Urbana, IL (Zewei Miao, Tony E. Grift, Alan C. Hansen, KC Ting) |
| 9:50AM | 121337614 | Field performance of commercial scale biomass harvest and logistics Equipment Maynard M. Herron, AGCO Corporation, Hesston, AR (Maynard M. Herron, Kevin Tacke, Pat Kendrick) |
| 10:05AM | 121336803 | Pipeline Hydro-Transportation of Agricultural Biomass: An Approach towards Large-Scale Bio-Based Energy Facilities Mahdi Vaezi, University of Alberta, Edmonton, AB, Canada (Mahdi Vaezi, Amit Kumar) |
| 10:20AM | 121337165 | Evaluation of Cellulosic Biomass Storage Practices - Year 1 Elizabeth A. Miller, Oklahoma State University, Stillwater, OK (Elizabeth Miller; Vince Schielack; Michael Buser; Carol Jones; Ray Huhnke) |
| 10:35AM | 121336784 | Cost analysis and procurement of lignocellulosic biomass feedstocks for biorefinery Ambika Karkee, Iowa State University, Ames, IA (Ambika Karkee, Stuart J Birrell) |
| 10:50AM | 121338022 | Natural Drying of Short-Rotation Willow Wood Chips in a Storage Crib Philippe Savoie, Agriculture and Agri-Food Canada, Québec, QC, Canada (Philippe Savoie and Marc-Antoine Robert) |
| 11:05AM 11:15AM | 121337461 | Break Mechanical Properties of Energy Crops in Fall Harvesting Season Jude Liu, Penn State University, University Park, PA (Shuai Zhang, Jude Liu) |
| 11:30AM | 121337294 | Corn Stover Transportation Unit Cycle Time Analysis Slobodan Gutesa, Iowa State University, Ames, IA (Darr, Shah, Webster) |
| 11:45AM | 121338482 | The Effect of Ecotype and Planting Location on Chemical and Elemental Composition of Big Bluestem Zewei Miao, University of Illinois at Urbana-Champaign, Urbana, IL (Zewei Miao, James C. Phillips, Tony E. Grift, Sunil Mathanker) |
| 12:00PM | 121337507 | Safety related ignition hazards during biorefinery processing of biomass and agricultural residues Joseph P. Polin, South Dakota State University, Brookings, SD (Joseph P. Polin, Dr. Zhengrong Gu, Dr. Daniel Humburg, Kevin Dalstead) |

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

SESSION 102

SPECIALTY CROP ENGINEERING - AUTOMATION - Sponsored by PM-46, FPE-712

Moderator: Mark C. Siemens, University of Arizona, Yuma, AZ

LOCATION: BATIK B

| Time | Paper # | Title/Authors |
|--------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121337448 | Introduction Canopy Architecture Affects Light Interception in Sweet Cherry Jingjin Zhang, Washington State University, Prosser, WA (Jingjin Zhang, Ruilong Luo, Patrick Scharf, Matthew Whiting, Qin Zhang) |
| 9:50AM | 121337183 | AN AUTOMATED TINE CONTROL SYSTEM FOR TRACTOR DRAWN CITRUS CANOPY SHAKERS Farangis Khosro Anjom, University of Florida, Gainesville, FL (Farangis Khosro Anjom, Joe Mari Maja, Reza Ehsani, Won Suk Lee) |
| 10:05AM | 121337766 | Shaking energy delivery on sweet cherry tree under different excitation modes Long He, Washington State University, Prosser, WA (Long He, Jianfeng Zhou, Xiaoqiang Du, Du Chen and Qin Zhang) |
| 10:20AM 10:30AM | 121338094 | Break Assessment of Bruise Damage by Vacuum Apple Harvester using an Impact Recording Device Ruilong Luo, Washington State University, Prosser, WA (Ruilong Luo, Karen M. Lewis, Qin Zhang, Shumao Wang) |
| 10:45AM | 121338439 | Preliminary Testing of a System for Evaluating Picker Efficiency in Tree Fruit Yiannis G. Ampatzidis, Washington State University, Prosser, WA (Yiannis Ampatzidis, Bikram Adhikari, Patrick Scharf, Matthew Whiting and Qin Zhang) |
| 11:00AM | 121338048 | End-effector Performance Evaluation of a Hand-held Mechanical Bloom Thinning Device Meng Wang, Washington State University, Prosser, WA (Meng Wang, Qin Zhang, Karen Lewis) |

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

SESSION 103

MACHINERY MANAGEMENT AND LOGISTICS - PART 1 -

Moderator: TBA

LOCATION: DARDANELLES

| Time | Paper # | Title/Authors |
|--------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121337052 | Introduction Using CAN data and spatial analysis to determine in-depth machinery productivity Matthew J. Darr, Iowa State University, Ames, IA (Matthew Darr, Kevin Peyton, Keith Webster, Benjamin Covington, Levi Powell) |
| 9:50AM | 121337053 | Demystifying CAN Data - A review of available CAN and ISOBUS information for analyzing machinery performance Matthew Darr, Iowa State University, Ames, IA (Darr, Webster, McNaull, Kruckeberg) |
| 10:05AM | 121340970 | Fuel Economy Analysis of Corn Combine Harvesters in Field Operation Zhihui Mao, China Agricultural University, Beijing, China (Qing Wei, Zhihui Mao) |
| 10:20AM | 121338156 | Historical Perspective on the Growth in Tractor Power, Vehicle Weight, Tire Size and Fuel Efficiency Scott A. Shearer, Ohio State University, Columbus, OH (Ryan Billman, Andrew Klopfenstein, Ira Kuenzli and Scott A. Shearer) |
| 10:35AM | 121340730 | The Effect of Ploughing Depth and Speed on the Fuel Consumption of some Commonly Used Farm Tractors in Selected States of South Western Nigeria Adewale O. Adewoyin, UNIVERSITY OF IBADAN, Ibadan, Nigeria (E.A. AJAV AND A.O. ADEWOYIN) |
| 10:50AM 11:00AM | 121337859 | Break The Impact of Unloading and In-Field Transport Processes on Efficient Use of Harvester Capacity Robert McNaull, Iowa State University, Ames, IA (Robert McNaull, John Kruckeberg, Matthew Darr, Keith Webster) |
| 11:15AM | 121341154 | Mobile Monitoring and Center-Navigation Technology for Agricultural Machinery Caicong Wu, Peking University, Beijing, China (Mengjia Luo, Caicong Wu, Lianjun Ding, Yaping Cai, Huaihong Su) |
| 11:30AM | 121337628 | Alternative Corn Residue Management Systems Kevin Shinnors, Univ. of Wisconsin, Madison, WI (C. Slattery; K. Shinnors; M. Digman) |

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

SESSION 104

YIELD MONITORING AND YIELD ESTIMATION TECHNIQUES - Sponsored by PM-54, PM-48

Moderator: Alex Thomasson, Texas A&M University, College Station, TX

LOCATION: EDELWEISS

| Time | Paper # | Title/Authors |
|--------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121337625 | Introduction Development of a Yield Monitor for Peanut Research Plots Kendall R. Kirk, Clemson University, Clemson, SC (Kendall R. Kirk, Wesley M. Porter, W. Scott Monfort, Young J. Han, William Henderson Jr., Jay W. Chapin) |
| 9:50AM | 121338357 | Application of an Ag Leader Cotton Yield Monitor for Measuring Peanut Yield Wesley M. Porter, Oklahoma State University, Stillwater, OK (Wesley M. Porter, Randal K. Taylor Chad Godsey) |
| 10:05AM | 121338184 | Yield Monitoring and Mapping Systems for Hay and Forage Harvesting: A Review Justin D. Maughan, University of Illinois at Urbana-Champaign, Urbana, IL (J. D. Maughan, S. K. Mathanker, A.C. Hansen and T.E. Grift) |
| 10:20AM | 121338186 | LIDAR based Biomass Yield Estimation Sunil K. Mathanker, University of Illinois at Urbana-Champaign, Urbana, IL (S. K. Mathanker, J. D. Maughan, A. C. Hansen, and T. E. Grift) |
| 10:35AM 10:45AM | 121338243 | Break Yield Editor 2.0: Software for Automated Removal of Yield Map Errors Kenneth A. Sudduth, USDA-ARS, Columbia, MO (Kenneth A. Sudduth, Scott T. Drummond, D. Brent Myers) |
| 11:00AM | 121340884 | Evaluation of L-times for soil disturbance during mechanised cassava harvesting Leo A. Agbetoye, Federal University of Technology, Akure, Nigeria, Akure, Nigeria (L.A.S Agbetoye and Ilevbare, I.) |
| 11:15AM | 121337075 | Wireless load weight monitoring via a mobile device based on air suspension pressure Dennis R. Buckmaster, Purdue University, West Lafayette, IN (Andrew Balmos, Alex Layton, Derek Hancock , Aaron Ault, James Krogmeier, Dennis Buckmaster) |

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

SESSION 105

SOIL AND WATER DISTINGUISHED LECTURE - INVITED PRESENTATIONS

Moderator: David Bjorneberg, USDA-ARS

LOCATION: INVERNESS

| Time | Title/Authors |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | Introduction Managing High Plains Water Resources for Optimum Socio-Economic Outcomes David Brauer, USDA ARS |
| 10:15AM 10:25AM | BREAK Deficit Irrigation Management from Production Functions to Decision Aids Norm Klocke, Kansas State University |
| 11:05AM | Storm Water Runoff from Natural Gas Well Sites in North Texas; Samping, Modeling, and Management Options Kenneth Banks, City of Denton, Texas. |



Technical Sessions



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

SESSION 106

SPECTROSCOPY AND SPECTROSCOPIC SENSING METH-ODS - PART 1 - Sponsored by IET-348

Moderator: Sreekala G. Bajwa, University of Arkansas, Fayetteville

LOCATION: FLEUR DE LIS A

| Time | Paper # | Title/Authors |
|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121338382 | Introduction Design and calibration of liquid crystal tunable filter based spectral imaging system Weilin Wang, University of Georgia, Tifton, GA |
| 9:50AM | 121338443 | A Mid-Infrared Sensor for Evaluating Ethanol Concentration in Gasoline Yongbo Wan, Oklahoma State University, Stillwater, OK (Yongbo Wan, Ning Wang) |
| 10:05AM | 121338119 | Design of a Dielectric Probe Prototype for Real-Time Quality Assessment of Milk Satyanarayan R. Dev, McGill University & Ecole Polytechnique de Montreal, Ste Anne De Bellevue, QC, Canada (S.R.S. Dev, B. Srinivasan, V.G.S. Raghavan, Y. Gariepy) |
| 10:20AM | 121338112 | Investigating Influence of Temperature on Radiofrequency Dielectric Properties of Chicken Meat Samir Trabelsi, ARS-USDA, Athens, GA (Samir Trabelsi) |
| 10:35AM | 121338130 | Detailed cellular phenotype measurements using Raman spectroscopy Ryan S. Senger, Virginia Tech, Blacksburg, VA (Ryan Senger) |
| 10:50AM | 121338295 | Break FTIR transmission spectroscopy for measurement of algae neutral lipids Talat Y. Al Shikali, Texas A&M University, College Station, TX (Talat Al Shikali, J.A. Thomasson, and Yufeng Ge) |
| 11:00AM | 121338385 | Biodiesel Impurities Detection Using Fourier Transformed Infrared Spectroscopy Marcelo Coronado, Technological University of Panama, Panama, Panama (Marcelo Coronado, Wengqiao Yuan*, Donghai Wang) |
| 11:30AM | 121337363 | Estimation of pecan yield using backscattered terrestrial microwave sensing James A. Hardin, Oklahoma State University, Stillwater, OK (James A. Hardin; Paul R. Weckler; Carol L. Jones) |

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

SESSION 107

ADVANCES IN INSTRUMENTATION AND CONTROLS - PART 1 - Sponsored by IET-353

Moderator: Yane Zhang, China Agricultural University, Stillwater, OK

LOCATION: FLEUR DE LIS B

| Time | Paper # | Title/Authors |
|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121338115 | Introduction Development of a CAN based Autonomous Vehicle Platform for Validating Control Architectures Santosh K. Pitta, University of Kentucky, Lexington, KY (S.K.Pitta, J.D.Luck and S.A.Shearer) |
| 9:50AM | 121336977 | Real-time Tree Foliage Density Estimation with Laser Scanner for Variable-Rate Tree Sprayer Development Yu Chen, The Ohio State University, Wooster, OH (Yu Chen, Heping Zhu, Hui Liu, Erdal Ozkan) |
| 10:05AM | 121341194 | Development of a multi-channel soil macronutrient detection system using ion-selective electrode Miao Zhang, China Agricultural University, Beijing, China (Linan Zhang, Miao Zhang, Mingya Sheng, Gang Liu) |

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

SESSION 108

DEVELOPING AGRICULTURAL APPLICATIONS FOR HAND-HELD MOBILE DEVICES - Sponsored by IET-254, PM-54

Moderator: Joseph S. Dvorak, Kansas State University, Manhattan, KS

LOCATION: LALIQUE

| Time | Paper # | Title/Authors |
|---------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121337139 | Introduction Smartphones App Framework for Potential Use by the Cooperative Extension Service Dharmendra Saraswat, University of Arkansas Division of Agriculture Cooperative Extension Service, Little Rock, AR (D. Saraswat) |
| 9:50AM | 121340753 | Software development tool for agricultural machinery based on IsoAglib open source library Woonchul Ham, Chonbuk National University, Jeonju, Republic of Korea (Woonchul Ham Enkhbaatar Tumenjargal Luubaatar Badarch Hyeokjae Kwon) |
| 10:05AM | 121341095 | Remote Monitoring System for Greenhouse Environment using Mobile Devices Sin-woo Kang, Dept. of Biosystems Machinery Engineering, Chungnam National University, Daejeon, Republic of Korea (Sin-Woo Kang, Sun-Ok Chung, Ki-Dae Kim, Yong-Seon Zhang, Seung-Oh Hur, Sang-Ho Jeon) |
| 10:20AM | 121340875 | Implementation of Greenhouse Monitoring and Control System Using Mobile Smartphone and Internet Dong-eok Kim, National Academy of Agricultural Science, Suwon, Republic of Korea (You Ho Kim, Gong In Lee, Dong Hyeon Gang, Hye Jin Lee) |

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

SESSION 109

MEASUREMENT AND MITIGATION OF GASEOUS POLLUTANTS FROM LIVESTOCK AND POULTRY - PART 1 - Sponsored by SE-305, SE-405

Moderator: Kenneth D. Casey, Texas AgriLife Research, Amarillo, TX

LOCATION: WYETH

| Time | Paper # | Title/Authors |
|---------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121338327 | Introduction Influence of Three Tannin Extracts Treatments on Air Emissions from Steer Manure Storages Venkata K. Vaddella, Michigan State University, East Lansing, MI (Huawei Liu, Wendy Powers) |
| 9:50AM | 121338442 | Ammonia Emissions from Broiler Houses Using Litter Windrowing During Downtime Yi Liang, University of Arkansas, Fayetteville, AR (Y. Liang, M. Lei, J. Payne, C. Penn, S. Watkins, G. T. Tabler, K.W. VanDevender) |
| 10:05AM | 121338133 | Mitigating Ammonia Emission from Broiler Houses using a Novel Biodegradable Litter Amendment Sara N. Senyondo, Virginia Tech, Blacksburg, VA (S.N. Senyondom, J. Arago Ogejo, R.S. Gates, F.W. Pierson, J.N. Walters) |
| 10:20AM | 121337336 | Break Assessment of Repeated Litter Amendment Application on Ammonia Reduction |
| 10:30AM | 121337336 | Hong Li, University of Delaware, Newark, DE (Hong Li) |
| 10:45AM | 121337770 | Calibration Drift Assessment and Upgrades to the Fan Assessment Numeration System (FANS) Laura M. Pepple, University of Illinois, Urbana, IL (M. Sama, L. Pepple, G.B. Day, D.G. Overhults, G.M. Morello, I. M. Lopes, J. Earnest Jr., K.D. Casey, R.S. Gates) |
| 11:00AM | 121337883 | Visualizing Airflow Using the Fan Assessment Numeration System (FANS) Michael P. Sama, University of Kentucky, Lexington, KY (Michael P. Sama, Gabriela M. Morello, Igor M. Lopez, George B. Day, Douglas G. Overhults) |

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

SESSION 110

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

Moderator: Morgan Hayes, Iowa State University, Ames, IA

LOCATION: TRAVERTINE

| Time | Paper # | Title/Authors |
|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121337135 | Introduction Fan Operations in a Commercial Broiler House Doug G. Overhults, University of Kentucky, Princeton, KY (Douglas G. Overhults) |
| 9:50AM | 121336852 | Energy usage assessment in selected broiler houses in Arkansas Rustico C. Bautista, University of Arkansas, Fayetteville, AR (Rustico C. Bautista, Yi Liang, Thomas Costello, William Speer) |
| 10:05AM | 121341169 | Lighting Systems for Broiler Houses Tadayuki Yanagi, Federal University of Lavras, Lavras, Brazil (Priscilla A. Pereira, Tadayuki Y. Junior, Joaquim P. da Silva, Renato R. Lima, Alessandro Torres Campos, Lucas Henrique Pedrosa Abreu) |
| 10:20AM | 121337154 | Break Durability and Illumination Degradation of Alternative Lighting Technologies for Poultry Production Eric R. Benson, University of Delaware, Newark, DE (E.R. Benson, E. Herrman, J. McGurk, D.P. Hougengtogler, and R.L. Alphin) |
| 10:45AM | 121337904 | Computational modeling of a conductive cooling system to alleviate heat stress in dairy cows Mario Mondaca, University of Arizona, Tucson, AZ (Mondaca, Rojano and Choi) |

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

SESSION 111

INNOVATIVE SYSTEMS AND RESOURCE SAVINGS STRATEGIES IN CONTROLLED ENVIRONMENTS - Sponsored by SE-303

Moderator: Peter P. Ling, The Ohio State University

LOCATION: STEUBEN

| Time | Paper # | Title/Authors |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121337680 | Introduction Predicting Shade Curtain Performance for Greenhouse Cooling Wee fong Lee, The Ohio State University, Wooster, OH (Wee Fong Lee, Peter P. Ling, Kurt Parbst) |
| 9:50AM | 121341097 | Construction and Operational Test of a Plant Factory Dong-ki Ryu, Dept. of Biosystems Machinery Engineering, Chungnam National University, Daejeon, Republic of Korea (Dong-Ki Ryu, Sun-Ok Chung, Sang-Un Park, Sun-Ju Kim, Yong-Pyo Lim) |



Technical Sessions



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

SESSION 112

HEAT AND POWER GENERATION FROM RENEWABLE ENERGY - Sponsored by SE-414, FPE-709, T-11

Moderator: Sergio Capareda, Texas A&M Univ, College Station, TX
LOCATION: PERIDOT

| Time | Paper # | Title/Authors |
|---------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121337011 | Introduction Impact of Increased Surface Area Cathodes Using Nano-structures on Microbial Fuel Cells Electricity Production Ann D. Christy, The Ohio State University, Columbus, OH (Alan Yost, Ann D. Christy, Lingying Zhao, Olli Tuovinen) |
| 9:50AM | 121337009 | Amplification of Microbial Fuel Cells Electric Potential Trent A. Bower, The Ohio State University, Columbus, OH (Trent Bower, Ann Christy, Lingying Zhao, Olli Tuovinen) |
| 10:05AM | 121336804 | Optimal Form of Delivery of Biomass to Different Sizes of Biofacility Arifa Sultana, University of Alberta, Edmonton, AB, Canada (Arifa Sultana, Amit Kumar) |
| 10:20AM | 121338253 | Biomass Gasification for Heat and Power Applications Sushil Adhikari, Auburn University, Auburn, AL (Sushil Adhikari, Christian Brodbeck, Steven Taylor) |

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

SESSION 113

PHYSICAL PROPERTIES AND EFFECTS ON DRYING, HANDLING AND PROCESSING

Moderator: Johnselvakumar Lawrence, University of Arkansas, Fayetteville, AR
LOCATION: OBELISK A

| Time | Paper # | Title/Authors |
|---------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121338051 | Introduction Characterization of Physical and Aerodynamic Properties of Walnuts Ragab Khir, University of California, Davis and Suez Canal University, Ismailia, Egypt, Davis, CA (Ragab Khir Zhongli Pan Griffiths G. Atungulu James F. Thompson) |
| 9:50AM | 121336839 | Moisture Sorption Isotherm Characteristics of Dehydrated Sorghum Flour ("ogi") Ajiboye S. Oyerinde, Univ of Alabama, Auburn, AL (Ajiboye Oyerinde, Ayodeji Mustapha) |
| 10:05AM | 121337270 | Development of Shrink Chart for Accurate Rice Quality Assessment Griffiths G. Atungulu, University of California Davis, Davis, CA (Griffiths G. Atungulu, Zhongli Pan, Tianxin Wang, Xiaotuo Wang, Ruipeng Fu, Ragab Khir, Prakash Bhagwati) |
| 10:20AM | 121340918 | Effects of Air Drying and Mechanical Drying on Thermal Properties of corn Jie Yang, China Agricultural University, Beijing, China (Hongbin Kang, Niwei Li, Hongying Wang, Rui Gao, Jie Yang) |
| 10:35AM | | Break |
| 10:45AM | 12133755 | Effect of Particle Size of Foam Mat Dried Tomato Juice-Powder on Various Physical and Sensory Attributes Dattatreya M. Kadam, Central Institute of Post-Harvest Engineering and Technology (CIPHET), Punjab, India (Dattatreya M. Kadam, Monika Sharma, Sonia Chadha, Robin A. Wilson) |
| 11:00AM | 121337675 | Drum Agglomeration of Corn Stover and Corn Coproducts from Bioprocessing Yi Li, Department of Agricultural and Biological Engineering, Purdue University, West Lafayette, IN (Y. Li, K. E. Ileleji, A.R.P. Kingsly, P.H. Doane) |
| 11:15AM | 121336806S | ieveless PSD Analysis of Knife-milled Wheat Straw and Corn Stover for Pipeline Hydro-Transportation Using Digital Image Processing Mahdi Vaezi, University of Alberta, Edmonton, AB, Canada (Mahdi Vaezi, Amit Kumar) |
| 11:30AM | 121337119 | Advances in Woody Biomass Drying by Taking Advantage of Surface Properties David N. Lanning, Forest Concepts, LLC, Auburn, WA (C.J. Lanning, J.L. Fridley, D.N. Lanning) |

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

SESSION 114

ADVANCES IN NONDESTRUCTIVE TESTING OF AGRICULTURAL, BIOLOGICAL AND FOOD PRODUCTS

Moderator: Yankun Peng, China Agricultural University, Beijing, China
LOCATION: OBERLISK B

| Time | Paper # | Title/Authors |
|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121337646 | Introduction Early Detection of Watermelon Fruit Blotch Disease Stephen C. Nimitz, Virginia Tech, Blacksburg, VA (Stephen C. Nimitz, P. Kumar Mallikarjunan, Sy Traore, Bingyu Zhao, Gregory E. Welbaum) |
| 9:50AM | 121340555 | Firmness measurements using non-destructive mechanical means-Standard proposal for low impact technique Itzhak Shmulevich, Technion, Haifa, Israel (Itzhak Shmulevich, Asaf Zvi) |
| 10:05AM | 121340828 | Kinetic models for determining vitamin C content in fresh jujube and its shelf life Hu Yaohua, Northwest A&F University, Yangling, China (C. Liu, Y. Hu, L. Zhao, C. Wang, K. Chen) |
| 10:20AM | 121336703 | Machine Vision For Non-Destructive Pecan Grading Abdoulaye Samba, Oklahoma State University, Stillwater, OK (Abdoulaye Samba) |
| 10:35AM | 121336974 | Nondestructive Measurement of Moisture Content of Different Types f Wheat with a Parallel-Plate Capacitance Sensor Venkatkrishna Kandala, USDA, ARS, Dawson, GA (C.V.K Kandala and N. Puppala) |
| 10:50AM | | Break |
| 11:00AM | 121340791 | Prediction of total volatile basic nitrogen in seafish using olfaction visualization technique Xingyi Huang, Jiangsu University, Zhenjiang, China (Xingyi Huang , Feiyan Jiang , Lijun Mu, Liya Yao) |

11:15AM 121340856 **Screen-printed potentiometric strip for calcium ion determination in water and milk**

Jianfeng Ping, Zhejiang University, Hangzhou, China (Jianfeng Ping, Jian Wu, Yibin Ying)

11:30AM 121341178 **System development for non-destructive detection of pesticide residue in apple**

Yankun Peng, China Agricultural University, Beijing, China (Sagar Dhakala, Yongyu Li, Yankun Peng*, Yunyun Sun)

11:45AM 121343849 **Application of VIS/NIR Hyperspectral Imaging for Predicting Beef Tenderness**
Xiaoyu Tian, China Agriculture University, Beijing, China (Xiaoyu Tian, Xiuying Tang, Yang Xu, Yankun Peng, Shibang Ma)

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

SESSION 115

ANAEROBIC DIGESTION ADVANCES IN MANURE, FOOD AND ORGANIC WASTE - PART 1 - Sponsored by FPE-707, SE-412

Moderator: William F. Ritter, University of Delaware, Newark, DE
LOCATION: MONTE CARLO

| Time | Paper # | Title/Authors |
|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121337028 | Introduction Evaluation of an on-farm two stage anaerobic digester Elizabeth W. Collins, Virginia Polytechnic Institute and State University, Blacksburg, VA (Elizabeth Collins, Andrea King and Jactone Arago Ogejo) |
| 9:50AM | 121337099 | Life Cycle Analysis of Various Dairy Manure Anaerobic Digestion Systems Dev S. Shrestha, University of Idaho: Department of Biological and Agricultural Engineering, Moscow, ID (Kyle Artrip, Dev Shrestha) |
| 10:05AM | 121337839 | Design and Operation of Model and Farm Scale Anaerobic Sequencing Batch Reactors Matthew T. Steele, Oklahoma State University, Stillwater, OK (Matthew T. Steele and Douglas W. Hamilton) |
| 10:20AM | 121337683 | Novel Characterization of Electrochemical Performance of Microbial Fuel Cells Inoculated for COD and Nitrate Removal Hongjian Lin, University of Minnesota, Waseca, MN (Hongjian Lin, Jun Zhu) |
| 10:35AM | | Break |
| 10:45AM | 121337849 | Enhanced Sustainability of Dairy Operations through Implementation of a Biomass Energy Project Mary kay Camarillo, University of the Pacific, Stockton, CA (Mary Kay Camarillo, William T. Stringfellow, Jeremy S. Hanlon, Michael B. Jue) |
| 11:00AM | 121340549 | Biogas Potential of Cow Slurry in Continuously Stirred Tank Reactors at Mesophilic/Thermophilic Temperatures Simeon O. Jekayinfa, Ladoko Akintola University of Technology, Ogbomosho, Nigeria (A.O. Adebayo, S.O. Jekayinfa & B. Linke) |

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

SESSION 116

BIOMASS FEEDSTOCK SUPPLY LOGISTICS AND PREPROCESSING - PART 1 -

Moderator: Sudhagar Mani, University of Georgia, Athens, GA
LOCATION: PLUM BLOSSOM A

| Time | Paper # | Title/Authors |
|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121337768 | Introduction Factors Affecting Pellet Quality and Energy Analysis of Pelleting Process Lope G. Tabil, University of Saskatchewan, Saskatoon, SK, Canada (Phani Adapa, Lope Tabil, and Greg Schoenau) |
| 9:35AM | 121338193 | Effect of particle size and binder concentrations on the granulation characteristics of biomass Sudhagar Mani, University of Georgia, Athens, GA (Sudhagar Mani, Vikram Yandapalli & Shahab Sokhansani) |
| 9:50AM | 121338352 | Woody Biomass Torrefaction: A Review Wenjin Jin, West Virginia University, Forestry, Wood science, Morgantown, WV (W. Jin, K. Singh, J. W. Zondlo, J. Wang, J.S. Brar, S. Kumar) |
| 10:05AM | 121337123 | Water vapor adsorption on torrefied corn stover Dorde Medic, Iowa State University, Ames, IA (Dorde Medic, Metthew Darr, Ajay Shah, Sarah Rahn) |
| 10:20AM | | Break |
| 10:30AM | 121338195 | Torrefaction characteristics of densified wood fuel pucks Sudhagar Mani, University of Georgia, Athens, GA (Sudhagar Mani, Wayne Winkler & Shahab Sokhansani) |
| 10:45AM | 121338353 | Pyrolysis and Torrefaction Behavior of Hardwood Components Wenjin Jin, West Virginia University, Forestry, Wood science, Morgantown, WV (W. Jin, K. Singh, J. W. Zondlo, J. Wang, J.S. Brar, S. Kumar) |
| 11:00AM | 121336830 | Impact of Storage Conditions on Composition, Enzymatic Activity and Ethanol Yield of Sorghum Biomass Used Anne Rigdon, K-State Dept of Grain Science, Manhattan, AR (Anne R. Rigdon, Ari M. Jumpponen, Scott A Staggengborg, Praveen Vadlani, Dirk E Maier) |
| 11:15AM | 121337642 | Variability of Moisture Content and Ash in Corn Stover Bales Brittany N. Schon, Iowa State University, Ames, IA (Brittany Schon, Matt Darr, Nicole Jennett, Dorde Medic, Kevin Peyton, Ajay Shah) |
| 11:30AM | 121337372 | Essential Elements for Producer Participation in Biomass Markets Darren H. Jarboe, Iowa State University, Ames, IA (Darren H. Jarboe, Bobby J. Martens, Mohammad M. Hoque, and Georgeanne M. Artz) |



Technical Sessions



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

SESSION 117

| Time | Paper # | Title/Authors |
|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | BIOMASS CATALYTIC AND THERMO-CHEMICAL CONVERSION PROCESSES - PYROLYSIS AND LIQUEFACTION |
| 9:35AM | 121338192 | LOCATION: PLUM BLOSSOM B Introduction Pyrolysis characteristics of various energy crops grown in the Southeastern US Sudhagar Mani, University of Georgia, Athens, GA (Sudhagar Mani, Anh-Vu, Jim Kastner, Bharat Singh, Hari Singh & Bill Anderson) |
| 9:50AM | 121337332 | High quality biofuel production from torrefied biomass Shoujie Ren, Washington State University, Richland, WA (Shoujie Ren, Hanwu Lei, Alan Zacher, Yupeng Liu, Lu Wang, Quan Bu, Jing Liang, Yi Wei, Shulin Chen, Joan Wu) |
| 10:05AM | 121338383 | Hydrothermal Conversion of Cellulose, Hemicellulose and Lignin: Influence of Operating conditions and their interactions Wenqiao Yuan, North Carolina State University, Raleigh, NC (Jing Gan, Wenqiao Yuan) |
| 10:20AM | 121338213 | Catalytic Pyrolysis of Torrefied Biomass for Hydrocarbons Production Vaishnavi Srinivasan, Auburn University, Auburn, AL (Vaishnavi Srinivasan, Sushil Adhikari) |
| 10:35AM | | Break |
| 10:45AM | 121337678 | Study of fast pyrolysis of corn stover and sawdust in a novel reactor Wangda Qu, South Dakota State University, Brookings, SD (Wangda Qu, Lin Wei, Zhongyi Ma, James Julson) |
| 11:00AM | 121336888 | The Rapid Production of Biochar Michael D. Boyette, North Carolina State University - BAE Department, Raleigh, NC () |
| 11:15AM | 121340966 | Kinetic study on the liquefaction of stem bark of corn stalk in ethylene carbonate Zhihuai Mao, China Agricultural University, Haidian, China (Tipeng Wang, Ali Mohammed Ibrahim Zayan, Zhihuai Mao, Yuguang Zhou) |

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

SESSION 118

| Time | Paper # | Title/Authors |
|---------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | EMERGING TECHNOLOGIES IN FOOD PROCESSING - Sponsored by FPE-703, IET-348 |
| 9:35AM | 121338145 | LOCATION: CORAL Introduction Developing low pressure treatments for disinfesting fresh fruits Shaojin Wang, Washington State University, Pullman, WA (S. Jiao, S. Wang, J. Johnson, T. Davenport) |
| 9:50AM | 121340987 | Changes in texture of fresh-cut carrot high pressure processed by combined pretreatment Hongmin Zhang, College of biosystem engineering and food science, Zhejiang University, Hangzhou, China (Hongmin Zhang, Songming Zhu, Yong Yu) |
| 10:05AM | 121337629 | Characterization of a Novel Cold Atmospheric Air Plasma System for Treatment of Packaged Liquid Food Products Kevin M. Keener, Purdue University, West Lafayette, IN (N.N. Misra, Dana Zuizina, Kevin Keener, P.J. Cullen) |
| 10:20AM | | Break |
| 10:30AM | 121341142 | Polysaccharide Extracts from Lentinus Edodes Stems Assisted By High Pressures Processing Jing Wang, Zhejiang University, Hangzhou, China (Jing Wang, Yong Yu, Jinsong He, Songming Zhu, Jianping Li *) |
| 10:45AM | 121338543 | Study on Discoloration Dynamic Characteristics of Apple Slices after Ultra-High Pressure Treatment Yi Lin, Zhejiang University, Hangzhou, China |
| 11:00AM | 121340724 | Experimental and theoretical investigation of rough rice drying in infrared-assisted hot air dryer using Artificial Neural Network Dariush Zare, Shiraz University, Shiraz, Islamic Republic of Iran (D. Zare, H. Naderi, A. Jafari) |

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

SESSION 119

| Time | Paper # | Title/Authors |
|---------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | CHALLENGES IN LIGNOCELLULOSIC CONVERSION - PART 1 - Sponsored by BE-28, FPE-709 |
| 9:35AM | 121337590 | LOCATION: EMERALD Introduction Effect of plant maturity on the physicochemical properties of switchgrass (Panicum virgatum, L.) hemicellulose Kris A. Bunnell, University of Arkansas, Fayetteville, AR (Kris Bunnell, Ashley Rich, William Oliver III, Jackson Lay Jr., Danielle Julie Carrier) |
| 9:50AM | 121338124 | Interaction of Densification and Pretreatment for the Enzymatic Hydrolysis and Fermentation of Biomass Scott W. Pryor, NDSU, Fargo, ND (Binod Rijal, Bishnu Karki, Manlu Yu, Igathinathan Cannayen, Scott W. Pryor) |
| 10:05AM | 121337405 | Effect of Dilute Alkali Pretreatment on Sugar Release from Transgenic Switchgrass Ziyu Wang, North Carolina State University, Raleigh, NC (Jiele Xu, Pankaj Pandey, Jay J. Cheng, Ruyi Li, Rongda Qu) |
| 10:20AM | 121338062 | Effect of lignin monomer content on sugar production from switchgrass via sodium hydroxide pretreatment Woolchul Jung, Biological and Agricultural Engineering, North Carolina State University, Raleigh, NC (Woolchul Jung, Ratna R. Sharma-Shivappa, Dhana Savithri, Sunkyu Park) |

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|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:35AM | | Break |
| 10:45AM | 121336827 | Microwave assisted steam explosion pretreatment of wheat straw for ethanol production Ankita Juneja, Oregon State University, Corvallis, OR (Ankita Juneja, Deepak Kumar, Ganti S. Murthy) |
| 11:00AM | 121336917 | Kinetic Modeling of Xylose Oligomers Degradation during Dilute Acid Hydrolysis Kris A. Bunnell, University of Arkansas, Fayetteville, AR (Ching-Shuan Lau, Kris Bunnell, Edgar C. Clausen and Danielle Julie Carrier) |
| 11:15AM | 121337340 | Strategies to Maximize Pentose Utilization in Genetically Modified Yeast Strains William E. Hohenschuh, Oregon State University: Biological and Ecological Engineering, Corvallis, OR (William Hohenschuh, Deepak Kumar, Ronald Hector, and Ganti S. Murthy) |
| 11:30AM | 121337630 | Densification of Radio Frequency Pretreated Lignocellulosic Biomass Barley Straw Lope G. Tabil, UNIVERSITY OF SASKATCHEWAN, Saskatoon, SK, Canada (Kingsley L. Iroba, Lope G. Tabil, Thomas Canam, Tim Dumonceaux) |

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

SESSION 120

| Time | Paper # | Title/Authors |
|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | APPLICATIONS OF ECOLOGICAL ENGINEERING - Sponsored by BE-22 |
| 9:35AM | 121337314 | LOCATION: SAPPHIRE Introduction Phyto-accumulation of Antimicrobials Triclocarban and Triclosan by Food Crops Shannon L. Henderson, Michigan State University, Portland, MI (Shannon Henderson, Dr. Shiny Matthews, Dr. Dawn Reinhold) |
| 9:50AM | 121337479 | Spatial and temporal characterization of cropping diversity in the contiguous US Jonathan P. Aguilar, USDA-ARS NGPRL, Mandan, ND (Jonathan Aguilar, John Hendrickson, Dave Archer, Mark Leibig, Greta Gramig and Frank Forcella) |
| 10:05AM | 121337812 | Combining High Tunnel and Agroforestry Technologies for Vegetable Production in Small Farms in North Carolina Manuel R. Reyes, North Carolina A&T State Univ, Greensboro, NC (D. Edralin, G. Gayle, J. Idassi, M. Reyes) |
| 10:20AM | 121338321 | Assessment of cattle impacts on soil characteristics in integrated crop-live-stock systems Tong Liu, University of Illinois at Urbana-Champaign, Urbana, IL (Tong Liu, Luis F. Rodriguez, Angela R. Green, Daniel W. Shike, Jacob R. Segers, Guilherme Del Nero Maia) |
| 10:35AM | | Break |
| 10:45AM | 121337815 | Natuculture: Biomimicry in Urban Landscapes Manuel R. Reyes, North Carolina A&T State Univ, Greensboro, NC (M.R. Reyes) |
| 11:00AM | 121337342 | An On-Site Biological Graywater Treatment System Suitable for a Small Business Phase I: Proof-of-Concept James B. Houser, Appalachian State University, Boone, NC (Houser, J.B.; Hambourger, M.S.; and Swinson, B.J.) |
| 11:15AM | 121338151 | A/C Condensate for Water Reuse: An Approach towards Environmental Sustainability in Doha Shashi Kant, Texas A&M University, College Station, TX (Shashi Kant, Fouad Jaber, Hazim Qiblawey) |

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

SESSION 121

| Time | Paper # | Title/Authors |
|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | TRENDS IN THE AGRICULTURAL AND BIOLOGICAL ENGINEERING PRACTICES IN DEVELOPING COUNTRIES - PART 1 - Sponsored by INTL |
| 9:35AM | 121337233 | LOCATION: ROSETTA Introduction Development of a Low-Cost Applicator for Urea Briquettes for Developing Countries Ganesh C. Bora, North Dakota State University, Fargo, ND (Ganesh Bora and Michael Meschke) |
| 9:50AM | 121340756 | DEVELOPMENT OF CASSAVA PELLETING MACHINE Akindele F. Alonge, University of Uyo, Uyo, Nigeria (A. F. Alonge, S. S. Ekanem and E. U. U. Ituen) |
| 10:05AM | 121337180 | Sugarcane Yields, Sugar and Ethanol Production to Different levels of Vinasse Injected with a Subsurface Drip Irrigation System Fabio J. Rocha, University of Sao Paulo, Piracicaba, Brazil (Fabio Jordao Rocha, Joao Alberto Lelis, Marcos Vinicius Folegatti, Juan Enciso-Medina, Rubens Duarte Coelho, Jarbas Honorio de Miranda) |
| 10:20AM | 121337820 | Conservation Agriculture for Food Security in Cambodia Manuel R. Reyes, North Carolina A&T State Univ, Greensboro, NC (S. Boulakia, S. Chabierski, L. Hok, K. Phally, M. Reyes) |



Technical Sessions



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

SESSION 122

| Poster # | Paper # | Title/Authors |
|----------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 121338196 | NEW FRONTIERS IN BIOENERGY - POSTERS - Sponsored by Energy LOCATION: GRAND BALLROOM Sudhagar Mani, University of Georgia, Athens, GA (Sudhagar Mani) |
| 2 | 121336737 | Outdoor storage characteristics of tube-wrapped single-pass corn stover bales in Iowa Ajay Shah, Iowa State University, Ames, IA (Ajay Shah, Matthew Darr, Keith Webster, Brittany Schon, Kevin Peyton, Andrew Kissel) |
| 3 | 121337643 | Influence of Sample Size and Processing on Quantifying Ash in Corn Stover Bales Brittany N. Schon, Iowa State University, Ames, IA (Brittany Schon, Matt Darr, Nicole Jennett, Dorde Medic, Kevin Peyton, Ajay Shah) |
| 4 | 121338049 | Effect of biomass particle size on enzymatic hydrolysis of lignocellulosic biomass at different solid loadings Rachna Dhir, University of Nebraska-Lincoln, Lincoln, NE (Rachna Dhir, Deepak R. Keshwani) |
| 5 | 121336973 | Photonanocatalyst Aided Alkaline Pretreatment and Raman Spectroscopic characterization of Corn Stover biomass Chao Wang, Iowa State University, Ames, IA |
| 6 | 121336821 | Influence of Polymerized Michelles on Corn Stover Chemical Changes, Enzyme Sub-Structure, Enzyme Recycling and Ethanol Yield after Simultaneous and Separate Saccharification and Fermentation Eckard D. Anahita, South Dakota State University, Brookings, SD (Anahita D Eckard; Kasiviswanathan Muthukumarappan; William Gibbons) |
| 7 | 121336813 | Analysis of casein polymer binding to lignocellulosic biomass as a mechanism for enhanced cellulase solubility Eckard D. Anahita, South Dakota State University, Brookings, SD (Anahita D Eckard; Kasiviswanathan Muthukumarappan; William Gibbons) |
| 8 | 121337544 | Pretreatment of Lignocellulosic Biomass with Recycled Black Liquor for Sugar Production Jiele Xu, North Carolina State University, Raleigh, NC |
| 9 | 121337310 | Semi-batch syngas fermentation in a trickle bed reactor using Clostridium ragsdalei Hasan K. Atiyeh, Oklahoma State University, Stillwater, OK (Mamatha Devarapalli, Hasan K. Atiyeh, Randy S. Lewis and Raymond L. Huhnke) |
| 10 | 121338038 | Soil and variety effects on cost, energy use, and CO2 emissions associated with switchgrass-based ethanol production in Mississippi Prem Woli, Mississippi State University, Mississippi State, MS (Prem Woli, Joel Paz, Brian Baldwin) |
| 11 | 121337605 | Poultry litter and switchgrass blending and pelletizing characteristics for biochar production Keri B. Cantrell, USDA-ARS, Florence, SC (K.B. Cantrell and J.H. Martin II) |
| 12 | 121337398 | Proximate and ultimate compositional changes in corn stover during torrefaction using thermogravimetric analyzer and microwaves Jaya Shankar Tumuluru, Idaho National Laboratory, Idaho Falls, ID (Jaya Shankar Tumuluru, Christopher T. Wright, Richard D. Boardman and Timothy Kremer) |
| 13 | 121338408 | Co-deoxy-liquefaction of swine manure and waste cooking oil for bio-oil production Shuangning Xiu, NC A&T State University, Greensboro, NC |
| 14 | 121337777 | Multifunctional Catalysis For Bio-oil Upgrading Lijun Wang, North Carolina Agricultural and Technical State University, Greensboro, NC (Lijun Wang, Jarret L. McClendon, Eswaramoorthi Iyyamperumal, Abolghasem Shahbazi) |
| 15 | 121337145 | Optimizing Catalytic Fast Pyrolysis of Biomass for Hydrocarbon Yield Feng Xu, Kansas State University, Manhattan, KS (Xiaorong Wu, Jennifer Markham, Xiuzhi S. Sun, Donghai Wang) |
| 16 | 121337334 | Optimum conditions and characteristics of products from microwave torrefaction of Douglas fir sawdust pellet Shoujie Ren, Washington State University, Richland, WA (Shoujie Ren, Hanwu Lei, Lu Wang, Quan Bu, Yupeng Liu, Jing Liang, Yi Wei, Shulin Chen, Joan Wu, and Roger Ruan) |
| 17 | 121336733 | Review on using Carbon based Catalysts for Removal of Contaminants in Biomass-Generated Syngas Pushpak N. Bhandari, Oklahoma State University, Stillwater, OK (Pushpak N. Bhandari, Ajay Kumar*, Danielle Bellmer and Raymond L. Huhnke) |
| 18 | 121338139 | Solvent Phase Algal Migration (S.P.A.M.) Process: An Efficient Technique for Dewatering Microalgae Sandun Fernando, Texas A & M University, College Station, TX |
| 19 | 121337129 | Awareness, Use, and Perceptions of Biodiesel among Students at Three Universities Donald M. Johnson, University of Arkansas, Fayetteville, AR (D.M. Johnson, D.W. Edgar, L.D. Edgar, M.L. Pate) |
| 20 | 121345166 | Analysis of Some Performance Parameters of ZH1125 Diesel Engine Yang Gao, China Agricultural University/Student, Beijing, China (Yang Gao, Decheng Wang, Jie Yang, Guanghui Wang, Zongwen Wang) |
| 21 | 121337127 | Performance and Emissions of A Compact Diesel Tractor Fueled with Emulsified Biodiesel Donald M. Johnson, University of Arkansas, Fayetteville, AR (Chis L. Hunt, Donald M. Johnson, Don W. Edgar, and George W. Wardlow) |
| 22 | 121340658 | Predicting Caloric Values of Pellets produced from Varying Blends of Energy Grasses and Wood using Hyperspectral Imaging Colm D. Everard, University College Dublin, Dublin, Ireland (Colm D. Everard, Colette C. Fagan, Gary Gillespie, Kevin P. McDonnell) |
| 23 | 121337195 | Energy loss during drying of loblolly pine wood Oladiran O. Fasina, Biosystems Engineering, Auburn, AL (Olatunde, G., Shrestha, S. and Fasina, O.) |

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

SESSION 123

| Time | Paper # | Title/Authors |
|---------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121337967 | WOODY BIOMASS PROCESSING AND CONVERSION - PART 1 - Sponsored by T-12 Moderator: David N. Lanning, Forest Concepts, LLC, Auburn, WA LOCATION: OPAL Introduction Using Pneumatics to Reduce Grinding Costs and Improve Product Quality for Woody Biomass Neal A. Yancey, Idaho National Laboratory, Idaho Falls, ID (Neal A. Yancey, Erin M. Searcy, Craig C. Conner, and Christopher T. Wright) |
| 9:50AM | 121337409 | Low-energy Comminution of Woody Biomass to Create Precision Feedstock Particles James H. Dooley, Forest Concepts, LLC, Auburn, WA (C.J. Lanning, D.N. Lanning) |
| 10:05AM | 121337289 | Properties of Dust from Loblolly Pine Gurdeep S. Hehar, Auburn University, Auburn, AL (Hehar, G., Fasina, O., Adhikari, S. and Fulton, J.) |
| 10:20AM | 121337661 | A study on pelletization characteristics of feedstock from an industrial pellet mill Naimi J. Ladan, University of British Columbia, Vancouver, BC, Canada (Ladan J Naimi, Shahab Sokhansanj, Sebastian Fuchs, Xiaotao Bi, C. Jim Lim, Staffan Mellin, Till Adrian) |
| 10:35AM | 121338354 | Break Biological utilization of acetic acid-rich bio-oil by microalgae for producing lipid based biofuel Yi Liang, Iowa State University, Ames, IA (Yi Liang and Zhiyou Wen) |
| 10:45AM | 121337272 | Surface Energy Analysis on Hot-Water extracted and Torrefied Appalachian Wood Species for Pellet Production David B. DeVallance, West Virginia University, Morgantown, WV (Gloria S. Oporto, Rory H. Jara, David Devallance, Juan Carrasco, T. Zhong) |
| 11:00AM | 121337272 | Process Optimization of Microwave Pyrolysis of Lignocellulosic Biomass for Enhanced Biochar Production Vijaya Raghavan, McGill University, Ste Anne-de-bellevue, QC, Canada (B. Dutta, V.G.S. Raghavan, Y. Gariepy) |
| 11:15AM | 121336848 | |

Monday, July 30 - 9:30AM-12:40PM

SESSION 124

| Time | Paper # | Title/Authors |
|--------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | 121337967 | INDUSTRY LEADERS IN THERMOCHEMICAL CONVERSION OF BIOMASS INTO FUELS, CHEMICALS AND POWER - INVITED PRESENTATIONS - Sponsored by T-11, FPE-709 Moderator(s): Kaushendra Singh, West Virginia State University Ajay Kumar, Oklahoma State University LOCATION: RUBY Target Audience: Researchers involved in biomass thermochemical conversions Learning Objectives: To learn about industry initiatives and challenges in thermochemical conversion of biomass into fuels, chemicals, and power. Benefits: Gain industry perspectives on biofuels production |
| 9:50AM | 121337409 | Invited Speakers: Dr. Albert Bennett, ICM Inc. Dr. Philip Weathers, Rentech Inc. All Power Labs, CA |

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

SESSION 126

| Poster # | Paper # | Title/Authors |
|----------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | 121337319 | POWER & MACHINERY DIVISION POSTER SESSION - Sponsored by PM-54 Moderator: Kelly R. Thorp, USDA-ARS, Maricopa, AZ LOCATION: GRAND BALLROOM Real-time chemical injection system for variable-rate sprayers Heping Zhu, F&B/Ohio State University, Wooster, OH (Yue Shen, Heping Zhu, Hui Liu, Yu Chen, Erdal Ozkan) |
| 02 | 121340956 | Evaporation Rate of Emulsion and Oil-base Emulsion Pheromones Linyun Xu, NANJING FORESTRY UNIVERSITY, Nanjing, China (Linyun Xu, Yuanxiang Ji, Hongping Zhou, Heping Zhu, Harold W. Thistle) |
| 03 | 121340812 | Influence of Operating Parameters of Air-assisted Rotating Cage Sprayer on Droplet Sizes Hongping Zhou, NANJING FORESTRY UNIVERSITY, Nanjing, China (Hongping Zhou, Linyun Xu, Wei Song, Yemin Cui, Hua Cui, Zhicheng Jia, Huichun Zhang) |
| 04 | 121337322 | Low Cost 3D Scanner Evaluation for Variable Rate Greenhouse Sprayers Hongyoung Jeon, Dow AgroSciences, Indianapolis, IN (Hongyoung Jeon, Heping Zhu, Peter Ling) |
| 05 | 121337917 | Wind variability in citrus spray applications Ahmed Al-jumaili, University of Florida, Lake Alfred, FL (Ahmed Al-Jumaili, Masoud Salyani, Roy Sweeb) |
| 06 | 121338416 | Aerial Multispectral Imaging for Yield Mapping of Cotton under Different Irrigation and Nitrogen Treatments Yanbo Huang, USDA ARS, Stoneville, MS (Yanbo Huang, Ruixiu Sui, Steven J. Thomson, Daniel K. Fisher) |
| 07 | 121345169 | Structure Optimization and Performance Research of Seeding Apparatus of Plot Seeder Yang Gao, China Agricultural University/Student, Beijing, China (Yang Gao, Decheng Wang, Jie Yang, Guanghui Wang, Li Wang, Xiaogang Ma) |
| 08 | 121341183 | Demonstration Research for Sugarcane Mechanization Production in China Yankun Peng, China Agriculture University, Beijing, China (Xiuying Tang, Weilong Yang, Yankun Peng*, Teqing Chen) |



Technical Sessions



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| 09 | 121341191 | Performance of an oscillating subsoiler in reducing resistance Dongxing Zhang, Ph.D. Beijing, China (Li Xia, Zhang Dongxing, Zhang Rui, Su Yiming, Cui Tao) |
| 10 | 121341172 | Design and test of trailer chassis of banana transportation Lope G. Tabil, South China Agricultural University, Guangzhou, China; University of Saskatchewan, Saskatoon, SK, Canada (Wang Tianyi, Wang Guanghui, Wang Decheng, Lope G. Tabil) |
| 11 | 121340702 | Performance Analysis Technologies of Prototype Machine for The Development of an Orchard Tractor Dong Il Chang, Dept. of Biosystems Machinery Engineering, Chungnam National University, Daejeon, Republic of Korea (Nam Seok Sung, Dong Il Chang, Ki Dae Kim, Yun Kun Huh, Sun Ok Chung, Byoung Kwan Cho, Jong Seung Cho) |
| 12 | 121340703 | The Evaluation of Stationary Bale System Performance and Bale Quality Dong Il Chang, Chungnam National University, Daejeon, Republic of Korea (D.-S. Park, D.-I Chang, S.-J. Park, I.-H. Lee, S.-O. Chung) |
| 13 | 121341092 | Evaluation of PTO Severeness of an Agricultural Tractor During Rotary Tillage and Baler Operation Yong-joo Kim, LS Mtron Ltd, Anyang, Republic of Korea (Yong-Joo Kim, Sun-Ok Chung, Chang-Hyun Choi, Dae-Hyun Lee, Seung-Jae Park) |

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

SESSION 127

MACHINERY MANAGEMENT AND LOGISTICS - PART 2 -

Moderator: TBA

LOCATION: BATIK A

| Time | Paper # | Title/Authors |
|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121336707 | Design and Development of a Stick Planter for the Developing World Adrian A. Koller, Oklahoma State University, Stillwater, OK (Jorge Rascún, Adrian Koller, Eric Lam, Austin Childers, Max Metcalf, Bill Raun, Randy Taylor, Paul Weckler) |
| 2:50PM | 121337167 | Evaluation of Corn Seed Vacuum Metering Systems Elizabeth A. Miller, Oklahoma State University, Stillwater, OK (Elizabeth Miller, PE; Jorge Rascon; Adrian Koller; Wes Porter; Randy Taylor; William R. Raun) |
| 3:05PM | 121336708 | Angular Seed Orientation Tolerances for a Precision Corn Planter Adrian A. Koller, Oklahoma State University, Stillwater, OK (Adrian A. Koller, Randal K. Taylor, William R. Raun, Paul R. Weckler, Michael D. Buser) |
| 3:20PM | | Break |
| 3:30PM | 121338359 | Motion Resistance on a Corn Silage Pile Jody Roades, John Deere PEC, Waterloo, IA (Robert White and Jody Roades) |
| 3:45PM | 121340953 | Spatial Model for Wheat Cross-District Machinery Harvest Benefits Analysis in China Donghui Lu, China Agricultural University, Beijing, China (Zhiqin Wang, Donghui Lu, Renpu Bai) |
| 4:00PM | 121337049 | Combine Fire Events Under Hot Dry Harvest Conditions Nicholas W. Uilk, South Dakota State University, Brookings, SD (Nicholas Uilk, Dan Humburg) |

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

SESSION 128

SPECIALTY CROP ENGINEERING - HARVEST AND THINNING - Sponsored by PM-48, FPE-712

Moderator: Mark C. Siemens, University of Arizona, Yuma, AZ

LOCATION: BATIK B

| Time | Paper # | Title/Authors |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121336786 | Development of defects detection algorithm with color imaging for infield sorting and grading of apples Akira Mizushima, USDA-ARS, East Lansing, MI (Akira Mizushima, Fernando Mendoza and Renfu Lu) |
| 2:50PM | 121338169 | Automated Machine for Thinning Lettuce - Development and Evaluation Mark C. Siemens, University of Arizona, Yuma, AZ (Siemens, M.C., R. Herbon, R.R. Gayler, K.D. Nolte and D. Brooks) |
| 3:05PM | 121337120 | Development of an Automated Planter for Sweet Potato Slips David L. Herriott, Auburn University Biosystems Engineering, Auburn Univ, AL (D. Herriott, J.P. Fulton, W.G. Foshee, T.P. McDonald, D.G. Beale, T.A. Monday) |
| 3:20PM | 121338247 | DISPATCHING AND ROUTING OF ROBOTIC CROP-TRANSPORT AIDS OF FRUIT PICKERS USING MIXED INTEGER PROGRAMMING Stavros G. Vougioukas, University of California, Davis, CA (Stavros Vougioukas, Yiannis Spanomitros, David Slaughter) |
| 3:35PM | | Break |
| 3:45PM | 121337207 | A Task Planning Algorithm for Automated Selective Thinning of Fruit Fu Ouyang, University of Illinois at Urbana-Champaign, Urbana, IL (Fu Ouyang, Tony E. Grift) |
| 4:00PM | 121336701 | Wireless signal path loss and transmission success rates in orchard environments Aaron J. Franzen, Oklahoma State University, Stillwater, OK (Aaron Franzen, Paul Weckler, Ning Wang) |
| 4:15PM | 121337429 | Dynamic response of cherry tree branches under limb shaker excitation Jianfeng Zhou, CPAAS, Washington State University, Prosser, WA (Jianfeng Zhou, Long He, Xiaoqiang Du, Du Chen, Patrick Scharf and Qin Zhang) |

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

SESSION 129

SOIL AND WATER POSTER SESSION - Sponsored by SW-21, SW-22, SW-24, SW-25, SW-26

Moderator: Rafael Munoz-Carpena, Sherry Hunt, Troy Peters, Kerry Robinson, Kyle Douglas-Mankin

LOCATION: GRAND BALLROOM

| Poster # | Paper # | Title/Authors |
|----------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14 | 121338039 | Predicting Water Quantity and Quality Based on Estimated Development within Reedy River Watershed John C. Hayes, Clemson University, Clemson, SC (C. V. Privette, III, J. C. Hayes, S.W. Taylor) |
| 15 | 121340843 | Spatial distribution and characteristics of farm land damages from extreme weather events in Korea Soon Ho Hwang, Seoul National University, Seoul, Republic of Korea (Inhong Song, Jung-Hun Song, Moon-Seong Kang, Sang-Min Kim, Min-Won Jang, Soon-Ho Hwang) |
| 16 | 121340845 | NPS pollutant loads from the soy bean cultivation in the tidal reclaimed uplands as affected by different fertilizer types Ji-Hye Kim, Seoul National University, Seoul, Republic of Korea (Inhong Song, Ji-Hye Kim, Moon-Seong Kang, Kyong-Do Lee, Jeong-Ryeol Jang) |
| 17 | 121338249 | Development of a Tool to Predict New Soil Moisture and Soil Temperature Regimes Xiuying Wang, Blackland Research Center, Temple, TX (Xiuying Wang, Jimmy Williams, Joe Nichols, Lee Norfleet) |
| 18 | 121338392 | Evapotranspiration Measurement using Eddy Covariance, Soil Water Balance, and Atmometer Methods for Cool Season Grass Xinhua Jia, North Dakota State University, Fargo, ND |
| 19 | 121338029 | Predicting Rainwater Harvesting Potential for Rainfed Areas Pramod K. Pandey, Iowa State University, Ames, IA (ML Soupir, Pieter van der Zaag, VP Singh, SN Panda, VK Pandey) |
| 20 | 121337366 | Reconstruction of information for short-gauged water quality parameters using a robust version of the Line of Organic Correlation technique Jan F. Adamowski, Dept. Bioresource Engineering McGill University, Ste Anne De Bellevue, QC, Canada (Dr. Bahaa Khalil, Dr. Jan Adamowski, and Dr. Shaden Abdel-Gawad) |
| 21 | 121337367 | Examining the patterns of interannual temperature variability in the plains of Northwestern Canada Jan F. Adamowski, Dept. Bioresource Engineering McGill University, Ste Anne De Bellevue, QC, Canada (Dr. Andreas Prokoph, Dr. Jan Adamowski) |
| 22 | 121337514 | DECISIONS model: A GIS-based tool for watershed nutrient planning Javier M. Osorio Leyton, BSE at Virginia tech, Blacksburg, VA (Javier Osorio1, Mary Leigh Wolfe, James Pease, Darrell Bosch, Christopher Zobel) |
| 23 | 121341126 | Impact on Flood Stage of Downstream of Dam Heightened Reservoir Soonho Hwang, SNU, Masan-si, Republic of Korea (Soon-Ho Hwang, Moon-Seong Kang, Sang-Hyeon Lee, Jin-Yong Choi) |
| 24 | 121337986 | Improvement and Application of GIS-based L-THIA Youn shik Park, Purdue University, West Ladayette, IN (Youn Shik Park, Kyoung Jae Lim, Bernie A. Engel) |
| 25 | 121337988 | Development of a Web-based Pollutant Load Interpolation Tool Using an Optimization Algorithm Youn shik Park, Purdue University, West Ladayette, IN (Youn Shik Park, Indrajeet Chaubey, Kyoung Jae Lim, Bernie A. Engel) |
| 26 | 121337098 | Berm Method for Quantification of Infiltration and Leaching at the Plot Scale in High Conductivity Soils Derek M. Heeren, Oklahoma State University, Stillwater, OK (D.M. Heeren, D.E. Storm, G.A. Fox) |
| 27 | 121336912 | Evaluating the Effectiveness of Weep Berm Systems for Treating Runoff from the Composting of Horse Muck Ross L. Guffey, University of Kentucky, Lexington, KY (Ross L. Guffey, Carmen T. Agouridis, Richard C. Warner, Christopher D. Barton, and Stephen F. Higgins) |
| 28 | 121337595 | Correction of the Analysis of HFP01 Heat Flux Sensor Data Collected During Periods of Rainfall Kalleigh C. Calhoun, Purdue University, Medina, OH (Kalleigh Calhoun, Kati Migliaccio) |
| 29 | 121338211 | Spatio-temporal Characterization of Groundwater Resources in North Central Texas Sriroop Chaudhuri, Texas AgriLife Research, Vernon, TX (Sriroop Chaudhuri, Srinivasulu Ale, Prasanna H. Gowda, Fouad H. Jaber) |
| 30 | 121338068 | Comparison of subsurface drainage under perennial pasture and row crops in a tile-drained field in Iowa Ryan J. Goeken, Iowa State University, Ames, IA (Ryan Goeken, Xiaobo Zhou, and Matthew Helmers) |
| 31 | 121337420 | Effects of Bioenergy Feedstock Production on Soil Physical Properties of Drained Forest Lands Julian F. Cacho, North Carolina State University, Raleigh, NC (J. F. Cacho, M. A. Youssef, G. M. Chescheir, T. W. Appelboom, R. W. Skaggs) |
| 32 | 121337211 | Some of the uncertainties associated with stage derived flow rates in streams FranAois Birgand, NCSU, Raleigh, NC (FranAois Birgand) |
| 33 | 121337214 | Uncertainties associated with flow-proportional composite sampling FranAois Birgand, NCSU, Raleigh, NC (FranAois Birgand) |
| 34 | 121341125 | The Evaluation of the CAT Model in Hydrological Simulation for a Small Watershed Soonho Hwang, Seoul National University, Masan-si, Republic of Korea (S.-H. Hwang, M.-S. Kang, S.-W. Chang, I.-H. Song) |
| 35 | 121341006 | A Process-Based Method for Evaluating Terrace Runoff and Sediment Yield Hui Shao, Northwest A&F University, Xi'an, China (Hui Shao; Claire Baffaut; Jian'en Gao) |



Technical Sessions



- 36 121341080 **Developing a systematic direct method of discharge and diameter calculations required to solve simple piping system problems**
Shereef M. Abd el aal, Faculty of Agriculture, Alexandria University, Alexandria, Egypt
- 37 121340972 **Corn stover liquids for coarse sand and fine soil particles stabilization: Laboratory wind tunnel study**
Zhihui Mao, China Agricultural University, Haidian, China (Ali Mohammed Ibrahim Zayan, Tipeng Wang, Yuguang Zhou, Yanhong Liu, Zhihui Mao)
- 38 121337178 **TMDL Load Calculations Using the “Disaggregate” Method**
Gene Yagow, Virginia Tech; Biological Systems Engineering Department, Blacksburg, VA (G. Yagow, B. Benham, K. Kline, R. Zeckoski, and C. Wallace)
- 39 121336883 **Effects from Trees, Quail Buffers, and Reduced Tillage on Runoff and Lake Water Quality in an Oxbow Lake Watershed**
Robert F. Cullum, USDA-ARS, Oxford, MS (Cullum R. F., M. A. Locke, S. S. Knight)
- 40 121340882 **Effects of sediment traps connected to the VFS systems**
Kyung-sook Choi, Kyungpook National University, Daegu, Republic of Korea (Prof. Kyung-Sook Choi, Dr. Jeong-Ryeol Jang)
- 41 121340836 **Development of Auto-calibration toolDong hyuk Kum, Kangwon National University, Chuncheon, Republic of Korea**
(Jichul Ryu, Hyunwoo Kang, Chun Hwa Jang, Dong Suk Shin, Se Uk Cheon, Kyoung Jae Lim)
- 42 121337365 **Evaluating the accuracy of existing landform maps and developing new landform maps for Iran using a digital elevation model**
Jan F. Adamowski, Dept. Bioresource Engineering McGill University, Ste Anne De Bellevue, QC, Canada (Dr. Hossein Saadat, Dr. Jan Adamowski1, Ms. Afsane Khiri)
- 43 121340861 **Assesment of Gross Primary Production in Juazeiro - BA (BRAZIL) irrigated Perimeter using Remote Sensing Techniques**
Josicleida D. Galvincto, Pernambuco Federal University (UFPE), Recife, Brazil (Célia Cristina Clemente Machado; Bernardo Barbosa da Silva; Josicleida Domiciano Galvincto; Magna Soelma Beserra de Moura; Hewerton Alves da Silva; Tiago Henrique de Oliveira)
- 44 121340599 **Assessment of gross primary production - GPP in an irrigated semi-arid land in Brazil using remote sensing**
Bernardo B. Da Silva, Federal University of Pernambuco, Recife, Brazil (Bernardo Barbosa da Silva, Célia Cristina Clemente Machado, Josicleida Domiciano Galvincto, Leidjane Maria Maciel de Oliveira, Maria Gico Lima Montenegro)
- 45 121340701 **Deployment of Wireless Soil Moisture Sensor Network in Zengcheng Experiment farm**
Xiao Degin, South China Agricultural University, Guangzhou, China (Feng Jianzhao Xiao Degin Hu Yueming)
- 46 121337085 **Dynamics of Depressional Storage During Sprinkler Irrigation and Precipitation Events**
Michael McKinney, University of Nebraska—Lincoln/Biological Systems Engineering, Lincoln, NE (Michael McKinney, Dean Eisenhauer, Suat Irmak, William Kranz, John Gille, Derrel Martin)
- 47 121338212 **Evaluation of irrigation strategies for the Texas Rolling Plains and the High Plains under projected future climate scenarios using DSSAT Model**
Naga R. Modala, Texas AgriLife Research and Extension Center (Texas A&M University), Vernon, TX (Naga Raghuvver Modala, Srinivasulu Ale, Shyam Nair, Clyde Munster, Nithya Rajan)
- 48 121340644 **Evaluation of sanitary quality of lettuce (Lactuca sativa, L.) irrigated with reused water in comparison with commercialized lettuce**
Claudinei F. Souza, UFSCar, Araras, Brazil (Antonio Claudio Testa Varallo; Joseane Marioto de Souza; Simone Sano Rossi Rezende; Vanessa Ribeiro Urbano; Claudinei Fonseca Souza)
- 49 121340892 **Growth of cocoa as function of water and nitrogen**
Lucia H. Chaves, Federal University of Campina Grande, Campina Grande, Brazil (Roger Luiz da Silva Almeida; Lucia Helena Garófalo Chaves)
- 50 121340643 **Influence of wastewater on the physical-chemicals properties of soil**
Vanessa R. Urbano, UFSCar, Araras, Brazil (Vanessa Ribeiro Urbano, Thais Grandizoli Mendonça, Maria Leonor Ribeiro Casimiro Lopes Assad, Reinaldo Gaspar Bastos, Claudinei Fonseca Souza)
- 51 121338246 **Performance of a Wireless Sensor Network for Crop Water Monitoring and Irrigation Control**
Susan A. O'Shaughnessy, USDA-ARS, Bushland, TX (O'Shaughnessy, S.A., S.R. Evett, P.D. Colaizzi, and T.A. Howell)
- 52 121340964 **Investigation of Irrigation Development Among Rural Farmers in Ogun State, Nigeria**
Jacob O. Akinyemi, Olabisi Onabanjo University, Ago Iwoye, Ago Iwoye, Nigeria (Akinyemi Jacob Olorunjuwon)
- 53 121340876 **Yield and Chlorophyll content of Nakati as influenced by Irrigation and Fertilizer Management**
Nicholas Kiggundu, Makerere University, Kampala, Uganda (Nicholas Kiggundu, Peter M. Mumbere, Michael Iwadra, and Robinah N. Ssonko)
- 54 121340899 **Responses of Tomato Yield and Water Consumption to Water Quality and Drip Irrigation Frequency**
Jiusheng Li, China Institute of Water Resources and Hydropower Research, Beijing, China (Y. Li, J. Li, J. Wen)
- 55 121340896 **Effects of Drip System Uniformity Cotton Yield and Quality Under Arid Conditions**
Jiusheng Li, China Institute of Water Resources and Hydropower Research, Beijing, China (H. Guan, J. Li, Y. Li)
- 56 121337631 **Does On-Farm Water Storage System Affect Streamflow and Nutrient Levels Downstream?**
Richard L. Kirmeyer, Mississippi State University, Starkville, MS (Richard L. Kirmeyer, Joel O. Paz, Mary Love M. Tagert, and Jonathan Pote)

- 57 121336913 **Conductivity Sensor Performance**
Carmen T. Agouridis, University of Kentucky, Lexington, KY (Travis P. Maupin, Carmen T. Agouridis, Christopher D. Barton, and Richard C. Warner)
- 58 121337624 **Sustainable growth of Miscanthus on marginal lands amended with flue gas-desulfurization gypsum and sewage biosolids**
Lindsay A. Kilpatrick, The Ohio State University, Columbus, OH (Lindsay Kilpatrick)
- 59 121337036 **Utilization of algae for TCE remediation**
Czarena Crofcheck, University of Kentucky, Lexington, KY (Czarena Crofcheck, Zeb Vance, Aubrey Shea, Michael Montross, Mark Crocker, Rodney Andrews)
- 60 121337151 **Characterizing Irrigation Water Requirements for Rice Production**
Christopher Henry, USDA-ARS, Portageville, MO; Univ of Arkansas, Stuttgart, AR (C. G. Henry E. D. Vories C. E. Wilson, Jr.)
- 61 121336897 **Evaluation of check dams performance under a new testing protocol**
Carlos Bulnes Garcia, University of Illinois at Urbana-Champaign, Urbana, IL (Carlos Bulnes, Joseph Monical Prasanta Kalita, Niels Svendsen, Heidi Howard)

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

SESSION 130

MODELS AND APPS FOR MANAGING WATER RESOURCES - Sponsored by SW-02

Moderator: Kyle Douglas-Mankin, Kansas State University, Manhattan, KS
LOCATION: DARDANELLES

This “Café Session” is an exciting new concept that we are trying for this session only this year. As noted in the Call for Papers, the new Café Session format gives attendees a “bite” of research results, followed by ample time for in-depth interaction. Presenters give brief, results-oriented oral presentations (2-3 minutes, 1-2 slides each) after which attendees circulate among presenters for one-on-one discussion and demonstrations. All forms of tablet, smart-phone, or laptop models/apps are encouraged.

| Time | Paper # | Title/Authors |
|--------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 1 | 121337449 | A SWAT-Based Decision Support Tool for Hawaii Sugarcane Plantation Jaehak Jeong, Texas AgriLife Research, Temple, TX (Jaehak Jeong, Jeff G. Arnold, Charles A. Jones, Raghavan Srinivasan) |
| 2 | 121338471 | Simulating Dryland Water Availability for Spring Wheat Production Under Various Management Practices in the Northern Great Plains Zhiming Qi, USDA-ARS Agricultural Systems Research Unit, Fort Collins, CO (Zhiming Qi et al. (to be determined)) |
| 3 | 121337077 | Water Management Apps - Initial Concepts and Development Approach Dennis R. Buckmaster, Purdue University, West Lafayette, IN (Dennis Buckmaster, Aaron Ault, Indrajeet Chaubey, Jane Frankenberger, Jim Krogmeier, Bernie Engel) |
| 4 | 121336835 | MIST: A Web-Based Irrigation Scheduling Tool for Mississippi Crop Production Amy M. Schmidt, Mississippi State University, Mississippi State, MS (A. Schmidt, G. Sassenrath, J. Crumpton, B. Rice, and J. Schneider) |
| 5 | 121338011 | A Web Application to Evaluate the Impact of Global Change on Water Resources in the Continental United States Peter Caldwell, USDA-FS, Raleigh, NC (P. Caldwell, G. Sun, S. McNulty, E. Cohen, J. Moore Myers, R. Bhattari) |
| 6 | 121340989 | Hydrological Model and Applications of Managing Water Resources, a Case Study of Osun River Basin, Nigeria Micheal O. Alatishe, Federal University of Technology, Akure, Ondo State, Nigeria., Akure, Nigeria (Alatishe, M.O. and Adeboye, B.O.) |
| 7 | 121336702 | Using the SWAT Model to Predict Crop Yields and Salinity Levels Aaron R. Mittelstet, Oklahoma State University, Stillwater, OK (Aaron Mittelstet, Dan Storm, Art Stoecker) |
| 8 | 121340778 | Applicational Analysis of Groundwater System Prediction Model Peiling Gao, Shandong University of Technology, Zibo, China (Peiling Gao; Shifeng Zhang) |
| 9 | 121337134 | One-Step Estimation of Actual Evapotranspiration using Canopy Resistance Modeled from Primary Micrometeorological and Plant Physiological Variables Denis Mutibwa, University of Nebraska-Lincoln, Lincoln, NE (Denis Mutibwa and Suat Irmak) |
| 10 | 121354847 | Ephemeral Gully Identification Tool using ArcGIS Prasad Daggupati, Kansas State University, Manhattan, KS (Prasad Daggupati, Kyle Douglas-Mankin, Aleksey Sheshukov) |
| 11 | 121337307 | WQlag-Water Quality Index for Runoff Water from Agricultural Fields Harbans Lal, USDA/NRCS, Portland, OR (Shaun McKinney) |

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

SESSION 131

SPECTROSCOPY AND SPECTROSCOPIC SENSING APPLICATIONS - PART 2 - Sponsored by IET-348

Moderator: Sreekala G. Bajwa, University of Arkansas, Fayetteville
LOCATION: EDELWEISS

| Time | Paper # | Title/Authors |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121337054 | Near infrared analysis of sugar beet raw thick juice for ethanol production Darrin M. Haagenson, North Dakota State University, Fargo, ND (Darrin M. Haagenson, Juan M. Vargas-Ramirez, and Dennis P. Wiesenborn) |
| 2:50PM | 121338230 | Classification of bacteria using hyperspectral imaging Stephen P. Walker, University of Kentucky, Lexington, KY (Stephen P. Walker, Fred Payne, and Michael Montross) |
| 3:05PM | 121337258 | Assessing Miscanthus \diamond giganteus composition using infrared reflectance spectroscopy Mary-Grace C. Danao, University of Illinois at Urbana-Champaign, Champaign, IL (X. Chen, D. Williams, M.C. Danao, S. Bauer, A. Ibanez) |



Technical Sessions



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| 3:20PM | 121338445 | Use of NIR technique to validate the relationship between two cotton trash measurements: geometric vs. gravimetric method Yongliang Liu, USDA, ARS, Cotton Structure & Quality Research Unit, New Orleans, LA (Yongliang Liu, Devron Thibodeaux, Gary Gamble, James Rodgers) |
| 3:35PM | 121337296 | Rapid Evaluation of Physiological status of Potato Tubers Using Visible/Near-Infrared Spectroscopic Methods Ahmed M. Rady, Michigan State University, East Lansing, MI (Ahmed M. Rady, Daniel E Guyer) |
| 3:50PM | | Break |
| 4:00PM | 121338173 | Identification of Laurel-Wilt infected avocado plants using visible-near infrared spectroscopy Sindhujha Sankaran, Citrus Research and Education Center, University of Florida, Lake Alfred, FL (Sindhujha Sankaran and Reza Ehsani) |
| 4:15PM | 121340825 | Feature wavebands selection using immune genetic algorithm for prediction of soluble solids content in citrus fruit Min Huang, Jiangnan University, Wuxi, China |
| 4:30PM | 121341079 | Temperature compensation for VIS/NIR spectroscopy measurement of Chinese rice wine quality Wanhui Zhou, College of Biosystems Engineering and Food Science, Zhejiang University, Hangzhou, China (Fei Shen, Yibin Ying, Bobin Li) |

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

SESSION 132

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| | | ADVANCES IN INSTRUMENTATION AND CONTROLS - PART 2 - Sponsored by IET-353 |
| | | LOCATION: INVERNESS |
| Time | Paper # | Title/Authors |
| 2:30PM | | Introduction |
| 2:35PM | 121337633 | Development, Automation and Calibration of a Customized Electrochemical Sensor that can Detect Post Harvest Diseases in Onions During Storage Tharun kumar Konduru, University of Georgia, Tifton, GA (Tharun kumar Konduru, Dr. Changying Li, Dr. Glen C. Rains) |
| 2:50PM | 121337521 | Improvements to an Optical Fluid Velocity Sensor Joseph S. Dvorak, Kansas State University, Manhattan, AR (Joseph Dvorak and Naiqian Zhang) |
| 3:05PM | 121341187 | Development of intelligent irrigation system, robot transporter, and precision artificial lighting system for moss mat production in a fully controlled plant factory Yusuf Hendrawan, University of Brawijaya, Malang, Indonesia (Yusuf Hendrawan, Bambang D. Argo, M. Bagus Hermanto, Song Zhang, Haruhiko Murase) |
| 3:20PM | | Break |
| 3:30PM | 121340913 | A wireless sensor network for soil EC measurement Minzan Li, China Agricultural University, Beijing, China (Li Ao, Li Minzan, Wang Zhuo, Sun Jinwen, Shen Hui) |
| 3:45PM | 121338391 | An Automated System for Monitoring and Control of Rice Wine Fermentation Dengfeng Liu, Jiangnan University; University of Missouri, Columbia, MO (Dengfeng Liu; Weili Xiong; Guoqiang Xu; Jinglu Tan*; Baoguo Xu*) |

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

SESSION 133

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| | | EMERGING INFORMATION TECHNOLOGIES - Sponsored by IET-254, IET-217, IET-312, IET-318 |
| | | Moderator: Acushla Antony, Purdue university, West Lafayette, IN |
| | | LOCATION: FLEUR DE LIS A |
| Time | Paper # | Title/Authors |
| 2:30PM | | Introduction |
| 2:35PM | 121336829 | Evaluating the Effectiveness of the NAPRA Model to Assess the Impacts of BMPs on Pesticide, Phosphorus and Nitrogen Losses Acushla Antony, Purdue university, West Lafayette, IN (Acushla Antony, Bernard Engel, Indrajeet Chaubey) |
| 2:50PM | 121337110 | A Safety Architecture for Autonomous Agricultural Vehicles David Kohanbash, Carnegie Mellon University, Pittsburgh, PA (David Kohanbash, Marcel Bergerman, Karen Lewis, and Stewart J Moorehead) |
| 3:05PM | 121337356 | LaTeX for Agricultural Extension Professionals Igathinathane Cannayen, North Dakota State University, Fargo, ND (C. Igathinathane, K. Hellevang, L. Backer, M. Liebig, K. Nichols) |

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

SESSION 134

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| | | MEASUREMENT AND MITIGATION OF GASEOUS POLLUTANTS FROM LIVESTOCK AND POULTRY - PART 2 - Sponsored by SE-305, SE-405 |
| | | Moderator: Kenneth D. Casey, Texas AgriLife Research, Amarillo, TX |
| | | LOCATION: FLEUR DE LIS B |
| Time | Paper # | Title/Authors |
| 2:30PM | | Introduction |
| 2:35PM | 121337171 | In-Field Comparison of an FTIR Analyzer and a Photoacoustic Analyzer for Measurement of Ammonia and Greenhouse Gases John Stinn, Iowa State University, Ames, IA (J. Stinn, H. Xin, T. Shepherd, M. Hayes, K. Ramazan) |
| 2:50PM | 121338423 | A Feasible Biofilter Media Moisture Sensor Liangcheng Yang, Univ. of Illinois at Urbana-Champaign, Urbana, IL (Liangcheng Yang, Ted L Funk, Xinlei Wang) |
| 3:05PM | 121337626 | Comparing semi-continuous air sampling versus 24-hour bag samples from two flat-bed biofilters with new woodchip media Kevin A. Janni, University of Minnesota, St. Paul, MN (Janni, K.A., L.D. Jacobson, B.P. Hetchler and L.J. Johnston) |

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| 3:20PM | 121337260 | PHYSICAL CHARACTERIZATION OF GAS-PHASE BIOFILTER MEDIA Guilherme D. Maia, University of Illinois at Urbana-Champaign, Urbana, IL (Guilherme D. N. Maia, G. Tatiana Sales, George B. Day V, Richard S. Gates, and Joseph L. Taraba) |
| 3:35PM | | Break |
| 3:45PM | 121336810 | Application of Highly Diluted Sulfuric Acid for Manure Ammonia Extraction Using a Gas-Permeable Membrane Amir M. Samani Majd, Texas A&M University, College Station, TX (Amir M Samani Majd, Saqib Mukhtar, M.S. Borhan, John Beseda) |
| 4:00PM | 121337380 | Estimating Ammonia Emissions from a Dairy Using Robotic Diffusive Samplers and Inverse Modeling Jay M. Ham, Colorado State University, Fort Collins, CO (Jay Ham, Christina Williams, and Kira Shonkwiler) |
| 4:15PM | 121338467 | Field Evaluation of a Spray Wet Scrubber for Mitigation of Ammonia (NH3) Emission from the Pit Exhaust of a Deep-Pit Swine Facility Lara jane Hadlocon, The Ohio State University, Columbus, OH (Lara Jane Hadlocon, Lingying Zhao, Roderick Manuzon, and Ibrahim Elbatawi) |
| 4:30PM | 121341160 | Emissions of Ammonia, Carbon Dioxide, and Hydrogen Sulfide from Swine SLurry During and After Acidification Treatment: Effect of pH, Mixing and Aeration Xiaorong Dai, University of Southern Denmark, Odense M, Denmark (X.R. Dai, V. Blanes-Vidal) |

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

SESSION 135

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|--------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | GREENHOUSE AND NURSERY TECHNOLOGY APPLICATIONS - Sponsored by SE-303 |
| | | LOCATION: LALIQUE |
| Time | Paper # | Title/Authors |
| 2:30PM | | Introduction |
| 2:35PM | 121337306 | Hydroponic Lettuce Research - Latest Results Harold M. Keener, Ohio Agri Res & Dev Center, Wooster, OH (R.C. Hansen, P.P. Ling, W.L. Bauerle, R.W. McMahon and H.M. Keener) |
| 2:50PM | 121345174 | Application of IoT Technology in Greenhouse Management Li Li, China Agricultural University, Beijing, China (Li Li, Man Zhang, Maohua Wang) |
| 3:05PM | 121341109 | Root Temperature Control System Using Cold Water in Greenhouse Noriko Takahashi, Ehime University, Matsuyama, Japan (Noriko Takahashi, Ryo Ebara, Hiroshige Nishina, Kotaro Takayama, Seiichi Arima, Kenji Hatou, Yuko Ueka, Yuzuru Miyoshi) |
| 3:20PM | 121337679 | An Assessment of Direct-fired Heater Operation for Greenhouse Plant Production Wee fong Lee, THE OHIO STATE UNIVERSITY, Wooster, OH (Peter P. Ling, Wee Fong Lee, Michelle Jones, and Claudio Pasion) |
| 3:35PM | | Break |
| 3:45PM | 121337447 | Greenhouse Dehumidification Requirement in Cold Regions Jingjing Han, University of Saskatchewan, Saskatoon, SK, Canada (Jingjing Han, Huiqing Guo, Zhu Gao, Robert Brad) |
| 4:00PM | 121341057 | Effect of Using Double Layers of Polyethylene Cover with Air Gap on Control Environment Inside Greenhouses Sirelkhatim K. Abbouda, King Faisal University, Hofuf, Saudi Arabia (Sirelkhatim K. Abbouda, Emad A. Almuhanna, and Ali M. Al-Amri) |
| 4:15PM | 121337906 | Determination of the effect of different wavelengths of LED on plant photosynthesis Most tahera Naznin, McGill University, Ste-anne-de-bellevue, QC, Canada (Most Tahera Naznin, Mark Lefsrud, Julie Gagne, Michael Schwalb, and Blake Bissonnette) |
| 4:30PM | 121337996 | LED Lighting for Greenhouse Tomato Production Paul L. Deram, McGill University - Macdonald Campus, Sainte-anne-de-bellevue, QC, Canada (Lefsrud, M.; Deram, P.) |

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

SESSION 136

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| | | AGRI-INDUSTRIAL FACILITY DESIGN AND OPERATION |
| | | Moderator: TBA |
| | | LOCATION: WYETH |
| Time | Paper # | Title/Authors |
| 2:30PM | | Introduction |
| 2:35PM | 121337298 | Design and Construction Considerations for Cold Storage Facilities Gregory D. Williams, Facility Engineering Services, PA, Springdale, AR (Greg Williams, Ph.D., P.E., Mike Brugger, Ph.D., P.E., Kurt Rosentrater, Ph.D.) |
| 2:50PM | 121337299 | Corrugated Grain Bin Ring Foundation Analysis, Design Theories and Applications Gregory D. Williams, Facility Engineering Services, PA, Springdale, AR (Gregory D. Williams, Ph.D., P.E., Brady Cox, Ph.D., P.E.) |

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

SESSION 137

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| | | MANURE-TO-ENERGY - Sponsored by SE-412, SW-263 |
| | | Moderator: TBA |
| | | LOCATION: TRAVERTINE |
| Time | Paper # | Title/Authors |
| 2:30PM | | Introduction |
| 2:35PM | 121338152 | Design and Implementation of on-site pilot scale IBR anaerobic digesters Conly L. Hansen, Utah State University Research Foundation, North Logan, UT (Zhongtang Yu, Conly Hansen, Shaun Dustin, Jacob Dustin) |
| 2:50PM | 121337656 | Hydrothermal carbonization of animal manures Kyoung S. Ro, USDA-ARS, Florence, SC (Kyoung S. Ro, Joseph R.V. Flora, Nicole Berge, Sunny Bae, Jindong Mao) |

2 page overview - page 36 and 37

2 page overview - page 36 and 37



Technical Sessions



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| 3:05PM | 121336892 | Comparing Soil and Pond Ash Feedlot Pen Surfaces for Environmental Management and Energy Recovery Bryan L. Woodbury, USDA-ARS-USMARC, Clay Center, NE (Roger Eigenber; David Parker, Mindy Spiehs) |
| 3:20PM | 121340548 | Break Comparison between dry and wet fermentation of biomasses as result of the monitoring of full scale plants Alessandro Chiumenti, University of Udine, Udine, Italy (Chiumenti A, Chiumenti R, Da Borso F, Limina S) |
| 3:45PM | 121340847 | Analysis of Cellulose-degrading Microbes in Anaerobic Co-digestion of Swine Manure with Corn Stover Jorge E. Gontupil, College of Urban Construction, Wuhan University of Science and Technology, Wuhan, China; North Carolina State University, Raleigh, NC (Taoyuan Wei, Zhaoyang You, Zhimin Liu, Jorge Gontupil, Jay J. Cheng*) |
| 4:00PM | 121337182 | Construction, Start-Up, and Operation of a Plug Flow Anaerobic Digester on the Michigan State University Dairy Teaching and Research Farm Louis L. Faivor, Michigan State University, East Lansing, MI (Louis L. Faivor; Dana M. Kirk, Ph.D.; David E. Holzwart) |

Monday, July 30 - 2:30PM-5:00PM SESSION 138

| Time | Paper # | Title/Authors |
|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | 121338033 | Introduction Developing Microwave Heat Transfer Model for Frozen Mashed Potato Packed in Microwaveable Tray Krishnamoorthy Pitchai, University of Nebraska, Lincoln, NE (K. Pitchai, J.D. Raj, J. Chen, S. Birla, J. Subbiah) |
| 2:50PM | 121337072 | Rapid Microwave Drying of Non-food Agricultural Feedstock for Improved Biofuel Production: Sweet Sorghum Bagasse Dorin Boldor, Louisiana State University Agricultural Center, Baton Rouge, LA (Laura A. Picou, Dorin Boldor) |
| 3:05PM | 121338238 | Techniques for measuring dielectric properties of agricultural products Stuart O. Nelson, USDA, ARS, Athens, GA (Stuart O. Nelson and Samir Trabelsi) |
| 3:20PM | 121345199 | Developing radio frequency treatment protocol for disinfesting coffee beans Shaojin Wang, Washington State Univ, Pullman, WA (L. Pan, S. Jiao, S. Wang, L. Gautz, T. Kang) |
| 3:35PM | 121336994 | Break The effect of Microwave drying parameters on the germination of wheat seeds Mohamed Hemis, Southern Illinois University, Carbondale, IL; University of Khemis Miliana, Algeria, Ain Defla, Algeria (Mohamed Hemis, Ruplal Choudhary, Dennis Watson) |
| 4:00PM | 121340971 | The Effect of Microwave Vacuum Drying on the Quality of Tiegun yam Zhihui Mao, Henan University of Science and Technology, Luoyang, China (Guangyue Ren, Zhihui Mao, Xiaoyan Du, Dong Li, Wenxue Zhu) |
| 4:15PM | 121340727 | Simulation of Fig (Ficus Carica cv.sabz) Drying Using Finite Element Method Dariush Zare, Shiraz University, Shiraz, Islamic Republic of Iran (D. Zare, A. Fathi) |
| 4:30PM | 121340729 | Combined Microwave-Fluidized Bed Drying of Moist Granular Particles: CFD Modeling and Validation Dariush Zare, Shiraz University, Shiraz, Islamic Republic of Iran (D. Zare, M. Ranjbaran) |

Monday, July 30 - 2:30PM-5:00PM SESSION 139

| Time | Paper # | Title/Authors |
|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | 121338300 | Introduction A Kinetic Model Structure for Simultaneous Saccharification and Fermentation in Rice Wine Production Dengfeng Liu, Jiangnan University; University of Missouri, Columbia, MO (Dengfeng Liu; Weiwei Xiong; Donglei Gao; Baoguo Xu*; Jinglu Tan*) |
| 2:50PM | 121338474 | Predictive Modeling of Infrared Radiation Heating Process for Tomato Dry-Peeling Zhongli Pan, University of California, Davis, Davis, CA (Xuan Li, Zhongli Pan, Michael Delwiche, Tara McHugh) |
| 3:05PM | 121340725 | Stress relaxation of date at different temperatures and moisture contents of product: A new approach Dariush Zare, Shiraz University, Shiraz, Islamic Republic of Iran (D. Zare, M. Alirezaei, S. M. Nassiri) |
| 3:20PM | 121338118 | Characterization of Flax Fiber Reinforced Poly(lactic Acid) (PLA) Biocomposite Radhey Lal Kushwaha, University of Saskatchewan, Saskatoon, SK, Canada (Sarika Kumari, Anup Rana Lal kushwaha) |
| 3:35PM | 121337663 | Break Cleaning and Chemical Treatment of Flax Fibre for Development of Biocomposite Satyanarayan Panigrahi, University of Saskatchewan, Saskatoon, SK, Canada (S. Panigrahi, R.L. Kushwaha, L. Tabil, S. Panigrahi) |

| | | |
|--------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4:00PM | 121338458 | Expansion and porosity of cellulose-starch composites after microwave treatment Yuzhi Deng, Department of Agricultural and Biological Engineering, Penn State Univ., State College, PA () |
| 4:15PM | 121341192 | Experimental Study on Compression Characteristics of Sugar Beet Dongxing Zhang, China Agricultural University, Qingdao Agricultural University, Beijing, China (Fangyan Wang, Dongxing Zhang, Fangyun Jiang) |

Monday, July 30 - 2:30PM-5:00PM SESSION 140

| Time | Paper # | Title/Authors |
|--------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | 121337834 | Introduction Evaluating the Potential for Improving Anaerobic Digestion of Waste Corn Stover through Routine Bioaugmentation Ana Martin-ryals, University of Illinois, Urbana-Champaign, Urbana, IL (Ana Martin-Ryals, Dr. Lance Schideman) |
| 2:50PM | 121337029 | Food Waste Recycling for Municipalities and Food Plants Conly L. Hansen, Utah State University, Logan, UT (Conly Hansen, Jianming Zhong and Carl Hansen) |
| 3:05PM | 121338006 | Determine the Relative Contribution of Hydrolytic and Acetogenic Bacterial Groups to further optimize the Bioaugmentation Process for Anaerobic Digestion of Virginia Cobia Fishwaste Peng Li, University of Illinois at Urbana Champaign, Urbana, IL (Lance C. Schideman, Henry T. Wilkinson, Richard Wagner) |
| 3:20PM | 121338378 | Performance assessment of various packing media for use in anaerobic digestion of poultry processing wastewater Shunli Wang, University of Georgia, Athens, GA (Shunli Wang, K.C. Das, Brian Kiepper and Gary Hawkins) |
| 3:35PM | 121340550 | Break Effect of Co-Digestion on biogas Production-A case study of Cow Slurry with Maize Cob Simeon O. Jekayinfa, Ladoke Akintola University of Technology, Ogbomoso, Nigeria (A.O. Adebayo, S.O. Jekayinfa & B. Linke) |
| 4:00PM | 121340869 | Effectiveness Biogas Production Using Poultry Wastes and Cow Dung Kamoru A. Adeniran, University of Ilorin, Ilorin, Nigeria., Ilorin, Nigeria (K.A. Adeniran) |

Monday, July 30 - 2:30PM-5:30PM SESSION 141

| Time | Paper # | Title/Authors |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | 121336801 | Introduction Logistics of Multiple Biomass Feedstock Delivery to a Biofacility Arifa Sultana, University of Alberta, Edmonton, AB, Canada (Arifa Sultana, Amit Kumar) |
| 2:50PM | 121337867 | Bulk-Format Switchgrass Harvest System Logistics Mitchell D. Groothuis, University of Tennessee Knoxville, Knoxville, TN (Mitchell D. Groothuis, Alvin R. Womac) |
| 3:05PM | 121337909 | Development of a Dynamic Simulation Model for a Biomass Supply Chain Maetee Patana-anake, University of Missouri, Columbia, MO (Maetee Patana-anake, Jinglu Tan) |
| 3:20PM | 121336807 | Feedstock Sourcing Optimization To Determine A Biorefinery's Supply Area Using A Geographical Information System Adrian Martinez, KSU - Grain Science & Industry, Manhattan, AR (A. Martinez, D. E. Maier, R. G. Nelson, and S. Hutchinson) |
| 3:35PM | 121338301 | Biomass-ethanol supply chain optimization: Dynamic facility location planning under changing supply and demand Tao Lin, University of Illinois, Urbana, IL (Tao Lin, Luis Rodríguez, Yogendra Shastri, Alan Hansen, KC Ting) |
| 3:50PM | 121337408 | Beneficiation of Chipped and Shredded Woody Biomass James H. Dooley, Forest Concepts, LLC, Auburn, WA (D.N. Lanning, C.J. Lanning) |
| 4:05PM | 121337659 | Break A study on the impact of wood species on grinding performance Naimi J. Ladan, University of British Columbia, Vancouver, BC, Canada (Ladan J. Naimi, Shahab Sokhansanj, Xiaotao Bi, C. Jim Lim, Staffan O. Melin) |
| 4:30PM | 121336872 | A study on ultrasonic cutting of biological materials Bo Liu, University of Missouri, Columbia, MO (Bo Liu and A. Bulent Koc) |
| 4:45PM | 121337074 | A Machine for Separation of Corn Stalk Rind and Pith Dennis R. Buckmaster, Purdue University, West Lafayette, IN (Defu Wang, Dennis Buckmaster) |
| 5:00PM | 121338345 | Evaluation of Current Technology for the Determination of Representative Bale Moisture Content William C. Adams, University of Kentucky, Lexington, KY (William Adams, Michael Montross, Aaron Turner, Josh Jackson, Leslie Mathis, William Hammond, Nathan Bush, Matt Fogle) |
| 5:15PM | 121337615 | Bioenergy from Sweet Sorghum- a techno-economic approach for evaluation of scale issues Kevin R. Caffrey, North Carolina State University, Raleigh, NC (K. Caffrey and M. Veal) |



Technical Sessions



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

SESSION 142

| Time | Paper # |
|--------|-----------|
| 2:30PM | 121338215 |
| 2:35PM | |
| 2:50PM | 121336836 |
| 3:05PM | 121336732 |
| 3:20PM | 121336727 |
| 3:35PM | |
| 3:45PM | 121336731 |
| 4:00PM | 121338120 |
| 4:15PM | 121336834 |
| 4:30PM | 121337644 |
| 4:45PM | 121338036 |

BIOMASS CATALYTIC AND THERMO-CHEMICAL CONVERSION PROCESSES - GASIFICATION -

Moderator: Ajay Kumar, Oklahoma State University

LOCATION: MONTE CARLO

Title/Authors

Introduction

Gasification of Fresh and Torrefied Cotton Gin Waste in an Auger Reactor

Samy S. Sadaka, University of Arkansas, Little Rock, AR (Samy Sadaka)

Gasification of torrefied biomass using a bench scale fluidized bed gasifier

Avanti Kulkarni, Auburn University, Auburn, AL (Avanti Kulkarni, Sushil Adhikari and Sushil Bhavnani)

In-situ refining of producer gas from fluidized bed gasification of switchgrass

Ashokkumar M. Sharma, Oklahoma State University, Stillwater, OK (Ashokkumar M. Sharma, Ajay Kumar and Raymond L. Huhnke)

Synthesis and Evaluation of Biochar derived Activated Carbon for the Removal of Tar from Biomass Generated Syngas

Pushpak N. Bhandari, Oklahoma State University, Stillwater, OK (Pushpak N. Bhandari, Ajay Kumar, Danielle Bellmer and Raymond L. Huhnke)

Break

Modeling switchgrass gasification with ASPEN Plus

Ashokkumar M. Sharma, Oklahoma State University, Stillwater, OK (Ashokkumar M. Sharma, Ajay Kumar and Raymond L. Huhnke)

Efficiency of Cyclones for the Removal of Biochar from a Fluidized Bed Gasifier

David S. Saucier, Texas A&M University, College Station, TX (Dr. Calvin B. Parnell Jr. Dr. Sergio Capareda Russell McGee)

In-situ thermo-catalytic tar cracking and syngas reforming in an updraft biomass gasifier

Arthur M. James, North Carolina State University, Raleigh, NC (Arthur James, Wenqiao Yuan)

Downdraft gasification-based producer gas co-firing with natural gas in a laboratory air-swirled diffusion burner: Effects of co-firing rates and combustion air-to-fuel ratios

Krushna N. Patil, Oklahoma State University, Stillwater, OK (Krushna N. Patil, Prakash R. Bhoi, Raymond L. Huhnke)

Experimental determination of solubility of major biomass producer gas tar compounds in the selected organic solvents and bio oils

Prakash R. Bhoi, Oklahoma State University, Stillwater, OK (Prakash R. Bhoi, Krushna N. Patil, and Raymond L. Huhnke)

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

SESSION 143

| Time | Paper # |
|--------|-----------|
| 2:30PM | 121337218 |
| 2:35PM | |
| 2:50PM | 121348359 |
| 3:05PM | 121337204 |
| 3:20PM | 121341184 |
| 3:35PM | |
| 3:45PM | 121341203 |
| 4:00PM | 121354826 |
| 4:15PM | 121337431 |
| 4:30PM | 121340855 |

SPECTRAL SCATTERING TECHNOLOGY FOR FOOD QUALITY AND SAFETY - Sponsored by FPE-701

Moderator: Renfu Lu, USDA ARS, East Lansing, MI

LOCATION: PLUM BLOSSOM A

Title/Authors

Introduction

Sensor for Monitoring Milk Coagulation

Molly Craft-Jenkins, University of Kentucky BAE, Lexington, KY (Molly Craft-Jenkins, Fred A. Payne)

Effects of sampling procedure/condition on the determination of spectral absorption and scattering properties of materials by hyperspectral imaging-based spatially-resolved technique

Renfu Lu, USDA/ARS, East Lansing, MI (Lu, Renfu, Haiyan Cen)

Grading of apples based on soluble solids content and firmness using a sensor fusion technique

Fernando A. Mendoza, USDA / ARS, East Lansing, MI (Fernando Mendoza, Renfu Lu, Haiyan Cen)

Classification of pork quality characteristics by hyperspectral scattering technique

Yankun Peng, China Agriculture University, Beijing, China (Feifei Tao, Yankun Peng*, Yulin Song)

Break

A Preliminary Study of A NIR Spectral Database for Rapid and Noninvasive Detection for Fruits

Wanhui Zhou, Zhejiang University, Hangzhou, China (Wanhui Zhou, Yibin Ying, Lijuan Xie)

Using Visible/Near Infrared Spectroscopy To Assess Soluble Solids Content of Grapes On a Moving Conveyor

Peter Schaare, Plant and Food Research, Hamilton, New Zealand (Schaare, Peter, V. Andrew McGlone, Richard Oliver, and Christopher Clark)

Evaluating Internal Maturity of Tomatoes using Spatially Offset Raman Spectroscopy

Jianwei Qin, USDA-ARS, Beltsville, MD (Jianwei Qin, Kaunglin Chao, Moon S. Kim)

Surface-enhanced Raman measurement of ethyl carbamate by aggregated silver nanoparticles

Danting Yang, Zhejiang University, Hangzhou, China (Danting Yang, Yibin Ying)

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

SESSION 144

| Time | Paper # |
|--------|-----------|
| 2:30PM | 121336837 |
| 2:35PM | |
| 2:50PM | 121337256 |
| 3:05PM | 121337463 |
| 3:20PM | 121337534 |
| 3:35PM | |
| 3:45PM | 121337525 |

DRYING, HANDLING, AND STORAGE OF CROPS FOR FOOD AND ENERGY - PART 1

LOCATION: PLUM BLOSSOM B

Title/Authors

Introduction

Development of a Cross-Flow Fish Smoking Kiln Fired by Biomass Material

Ajiboye S. Oyerinde, UNIVERSITY, Auburn, AL (A.S. Oyerinde., O.J. Olukunle and A.S. Ogunlowo)

Drying and airflow resistance of miscanthus and energy sorghum bagasse

Mary-Grace C. Danao, University of Illinois at Urbana-Champaign, Urbana, IL (T. Iqbal, M. Barreto, and M.C. Danao)

Discrete Element Modeling of Commingling of Insect-Infested and Sound Grain

Josephine M. Boac, Kansas State University, Manhattan, KS (Josephine M. Boac, Mark E. Casada, Ronaldo G. Maghirang, and Joseph P. Harner III)

Effects of Grain Bag Internal Environment on Commercial Corn and Soybeans

Jason K. Ward, Mississippi State University, Mississippi State, MS (Ward, JK and JD Davis)

Break

Improving the Storage Life of Raw Beet Juice for Ethanol Production

Juan M. Vargas-ramirez, North Dakota State University, Fargo, ND (Juan M. Vargas-Ramirez, Dennis P. Wiesenborn, Scott W. Pryor, and Darrin Haagenson)

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

SESSION 145

| Time | Paper # |
|--------|-----------|
| 2:30PM | 121336792 |
| 2:35PM | |
| 2:50PM | 121336918 |
| 3:05PM | 121337921 |
| 3:20PM | 121337831 |
| 3:35PM | |
| 3:45PM | 121337810 |
| 4:00PM | 121337309 |
| 4:15PM | 121337622 |
| 4:30PM | 121337170 |

CHALLENGES IN LIGNOCELLULOSIC CONVERSION - PART 2 - Sponsored by BE-28, FPE-709

Moderator: Danielle Julie Carrier, University of Arkansas

LOCATION: CORAL

Title/Authors

Introduction

Characterization of the soluble and insoluble inhibitor effects on enzymatic hydrolysis at high solids using pretreated corn stover

Alicia Modenbach, University of Kentucky, Lexington, KY (Alicia Modenbach, Sue Nokes, Michael Montross, Barbara Knutson)

Effects of Biomass Contamination on Xylose and Glucose Yields from Dilute Acid Pretreatment and Enzymatic Hydrolysis of Sweetgum Wood

Angele Djioleu, University of Arkansas, Fayetteville, AR (Angele Djioleu, Elizabeth Martin, Mathew Pelkki, and Danielle Carrier)

Stochastic modeling of enzymatic hydrolysis of cellulose for ethanol production

Deepak Kumar, Oregon State University, Corvallis, OR (Deepak Kumar and Ganti S. Murthy)

Pretreatment optimization for an effective conversion of Eastern redcedar to ethanol

Karthikeyan D. Ramachandriya, Oklahoma State University, Stillwater, OK (Karthikeyan D. Ramachandriya, Mark R. Wilkins, Nurhan T. Dunford, Salim Hizirolu and Hasan K. Atiyeh)

Break

Improved Method of Producing Furfural from Biomass

Anurag S. Mandalika, University of Wisconsin- Madison, Madison, WI (Anurag Mandalika and Troy Runge)

Cost-competitive medium design for ethanol production

through syngas fermentation Jie Gao, Oklahoma State University, Stillwater, OK (Jie Gao, John R. Phillips, Hasan K. Atiyeh, Mark R. Wilkins, Raymond L. Huhnke)

Syngas fermentation to biofuel: Evaluation of carbon monoxide mass transfer and analytical modeling using composite hollow fiber (CHF) membrane bioreactor

Pradeep C. Munasinghe, University of Hawaii at Manoa, Honolulu, HI (Pradeep C. Munasinghe and Samir K. Khanal)

Kinetics of Methane Production during Anaerobic Co-digestion of Switchgrass and Microalgae

Hamed H. El-mashad, Lincoln University, Jefferson City., MO (Hamed El-Mashad)

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

SESSION 146

| Time | Paper # |
|--------|-----------|
| 2:30PM | 121337377 |
| 2:45PM | |
| 3:00PM | 121337918 |
| 3:15PM | 121338202 |
| 3:30PM | 121337460 |

MONITORING AND MODELING OF PATHOGENS AND PATHOGEN INDICATORS - Sponsored by BE-22, SW-224

Moderator: Michelle Soupir, Iowa State University

LOCATION: EMERALD

Title/Authors

Introduction

Photocatalysis induced sub-lethal effect on reactivation mechanisms in E. coli

Jasjeet Kaur, Texas A&M University, College Station, TX (Raghupathy Karthikeyan, Roger Smith)

Method to partition between freely suspended Escherichia coli and Escherichia coli attached to clay particles

Xiao Liang, Iowa State University, Ames, IA (Xiao Liang, Michelle Soupir, Shawn Rigby, Laura Jarboe, Wei Zhang)

In vitro activity of antibiotics alone and in combination on Staphylococcus pseudintermedius biofilm

Matthew DiCicco, University of Guelph, Guelph, ON, Canada (Matthew DiCicco, Suresh Neethirajan, Ameet Singh, Scott Weese)

Occurrence and Movement of Antibiotic Resistant Bacteria and Resistance Genes in Tile-Drained Agricultural Fields Receiving Swine Manure Application

Jason Garder, Iowa State University, Ames, IA (Jason L. Garder, Michelle L. Soupir, Thomas B. Moorman)



Technical Sessions



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

SESSION 147

| Time | Paper # | Title/Authors |
|--------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | TRENDS IN THE AGRICULTURAL AND BIOLOGICAL ENGINEERING PRACTICES IN DEVELOPING COUNTRIES - PART 2 - Sponsored by INTL |
| 2:35PM | 121340973 | Moderator: TBA LOCATION: SAPPHERE Introduction Current Situation Analysis of Corn Processing Technologies and Equipments in Production Place of China Zhihui Mao, China Agricultural University, Beijing, China (Qing Wei, Qing Liu, Zhihui Mao) |
| 2:50PM | 121337418 | Quantifying the First Flush in Rooftop Rainwater Harvesting in Sierra Leone Jessica Lay, Oklahoma State University, Stillwater, OK (Jessica Lay, Bashiru M. Koroma, Jason Vogel, Jason Belden, Glenn Brown) |
| 3:05PM | 121340705 | Sweetness and Nutritional Potentials of <i>Marantochloa Cuspidata</i> (ROSC) Fruit Etim U. Ituen, University of Uyo, Uyo, Nigeria |
| 3:20PM | 121337355 | Resource Cycling in the Agricultural sector: An sustainability analysis of practices in some developing countries Israel Dunmade, Mount Royal University, Calgary, Calgary, AB, Canada |

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

SESSION 148

| Time | Paper # | Title/Authors |
|--------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:35PM | | CHINA EXCHANGE - INVITED PRESENTATIONS - Sponsored by Intl-601, AOCABFE |
| 2:50PM | | Moderator: Zhuping Sheng, Texas A&M University LOCATION: ROSETTA Promoting and facilitating academic and research exchanges among scholars from China and other countries in sustainable agriculture. Look into the Future and Work Together Sonia Maassel Jacobsen, President, ASABE |
| 3:05PM | | CSAE's Role and Practice in Promoting International Exchange and Cooperation in Agricultural Engineering Yingkuan Wang, Executive Deputy Chief, Chinese Academy of Agricultural Engineering |
| 3:20PM | | Research and International Collaborations of the Arid-Land Agricultural Research Center: Sustaining Agriculture in Water-Limited Environments Steven E Narajo, Director, USDA Arid-Land Agricultural Research Center |
| 3:35PM | | Review on Research and Application of Precision Agriculture Chunjiang Zhao, Director/Prof, China National Engineering Research Center for Information Technology in Agriculture |
| 3:50PM | | An Exciting Time for China-US Collaborations in Sustainable Agriculture Hongwei Xin, Director, Iowa State University |
| 4:00PM | | BREAK |
| 4:15PM | | Research and Development on New Irrigation Equipment Hong Li, Associate Director, Jiangsu University |
| 4:30PM | | New Opportunities for Farming and Rural Development Shu Geng, Professor, University of California Davis |
| | | Studies of Wireless Sensor Network in Precision Agriculture Minzan Li, Director, China Agricultural University |

Monday, July 30 - 2:30PM-5:40PM

SESSION 149

| Time | Paper # | Title/Authors |
|--------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | GLOBAL PERSPECTIVES ON FOOD QUALITY, SAFETY AND SECURITY - INVITED PRESENTATIONS - |
| 2:35PM | | Moderator: Deepak R. Keshwani, University of Nebraska-Lincoln LOCATION: OPAL Engineers, researchers, and industry professionals interested in food-related issues |

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

SESSION 150

| Time | Paper # | Title/Authors |
|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | WOODY BIOMASS PROCESSING AND CONVERSIONS - PART 2 - Sponsored by T-12 |
| 2:35PM | 121338035 | Moderator: David N. Lanning, Forest Concepts, LLC, Auburn, WA LOCATION: RUBY Introduction Pretreatment of Wheat Straw Using the Combination of Sodium Hydroxide and Lime for the Production of Fermentable Sugars Pankaj Pandey, North Carolina State University, Raleigh, NC |
| 2:50PM | 121341002 | Biomass Energy Conversion in EFGT (Externally Fired Gas Turbine): An Experimental-Numerical Analysis Vincenzo Mulone, University of Rome Tor Vergata, Rome, Italy (Stefano Cordiner, Vincenzo Mulone) |
| 3:05PM | 121337934 | Effect of Gasification Parameters on Syngas Contaminants Nourredine Abdoulmoumine, Biosystems Engineering Department, Auburn University, Auburn, AL (Nourredine Abdoulmoumine, Sushil Adhikari) |
| 3:20PM | | Break |
| 3:30PM | 121338451 | Development of novel biofilm-based reactor systems for enhancing mass transfer in syngas fermentation Yanwen Shen, Iowa State University, Ames, IA (Yanwen Shen; Zhiyou Wen) |
| 3:45PM | 121337933 | Comparative Study of Canola Cake and Pine Wood Bio-Oil Stability Nourredine Abdoulmoumine, Biosystems Engineering Department, Auburn University, Auburn, AL (Nourredine Abdoulmoumine, Sushil Adhikari) |
| 4:00PM | 121336920 | Antimicrobial and Antioxidant Effects of Compounds in Sweetgum Bark (<i>Liquidambar styraciflua</i> L.) Danielle Julie Carrier, University of Arkansas, Fayetteville, AR (Shiloh A. Hurd, |

LaRae Brown, Elizabeth Martin and Danielle Julie Carrier)

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

SESSION 151

THE IMPORTANCE OF ASABE ADVOCACY: HOW EDUCATING POLICY MAKERS IS VITAL FOR THE FUTURE OF BIOENGINEERING - INVITED PRESENTATIONS - Sponsored by E-07

Moderator: Victor Duraj, University of California, Davis
LOCATION: MING
Ever wonder how policy makers learn about agricultural and biological engineering issues? Curious as to how the Congressional process really works? Join us to learn about and discuss these issues and the role ASABE plays in highlighting the contributions of agricultural and biological engineering to our decisions makers in Congress. The session will be followed by a regular meeting of E-07, Issues Management and Social Action, the ASABE committee that coordinates ASABE positions on public policy issues; all interested attendees are encouraged to stay for the meeting.

Invited speakers:
John Bonner - Executive Vice President and CEO of the Council for Agricultural Science and Technology (CAST)
Bradley Rein - Division Director of Agricultural Systems at the National Institute of Food and Agriculture (NIFA)
Victor Duraj - ASABE E-07 Chair and Associate Development Engineer, Biological & Agricultural Engineering at University of California Davis
Sean Gallagher - Director of Public Policy at the American Institute for Medical and Biological Engineering (AIMBE) and former Congressional Aide

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

SESSION 152

ECOLOGICAL ENGINEERING: THE STATE OF THE PRACTICE AND FUTURE DIRECTIONS - INVITED PRESENTATIONS - Sponsored by BE-22

Moderator: William F Hunt III
LOCATION: MING
Per one of the father figures of ecological engineering, Dr. William Mitsch, this relatively young engineering field is defined as "the design of sustainable ecosystems that integrate human society with its natural environment for the benefit of both." For many agricultural and biological engineers, particularly those with experience in natural systems, the field of ecological engineering is a natural fit. This invited session brings to the fore advances in ecological engineering with a focus on what biological engineers have accomplished in the field and in the classroom. Presenters at this session will provide unique views of the future of ecological engineering, including integration of ecological engineering into the curriculum. The session will also feature a discussion on the Australasian experience of adapting ecosystem health into engineering design.

Invited speakers:
Margaret Greenway, Griffith University
Gregory Jennings, North Carolina State University
Manuel Reyes, North Carolina A&T University

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 201

ENGINEERING FOR FORAGE HARVEST AND STORAGE - Sponsored by PM-23/7/2, FPE-702, FPE-709, PM-43

Moderator: Patrick Murphy, Purdue University, West Lafayette, IN
LOCATION: BATIK A
Title/Authors
Introduction
Wet fractionation for improved utilization of alfalfa
Matthew F. Digman, U.S. Dairy Forage Research Center (USDA-ARS), Madison, WI (M.F. Digman, T.W. Runge, R.D. Hatfield and K.J. Shinnors)
Logistics and Economics of Blending Condensed Distillers Solubles with Stover on Small to Mid-Size Cattle Farms
Katharine H. Bartlett, Purdue University, West Lafayette, IN (Katharine Bartlett, Dennis Buckmaster, Nicole Olynk, Shawn Donkin)
Resources to provide hay and silage for dairy production
Philippe Saviole, Agriculture and Agri-Food Canada, Québec, QC, Canada (Philippe Saviole, René Morissette, Frédéric Pelletier, Stéphane Godbout)
Influence of compression plate on specific energy of hay bale recompressing
Yang Gao, China Agricultural University, Beijing, China (Wencheng Huang, Decheng Wang, Guanghui Wang, Yang Gao, Lu Wang)
Break
The relationship between the parameters of the rotation cutter and the mowing area
Yang Gao, Chinese agriculture university, Bei Jing, China (Fang Liang, Decheng Wang, Guanghui Wang, Hongjie Chen, Yong Yu)
Development of an optimized forage harvest machinery system selection factors analysis model using analytic network process and DEMATEL
Donghui Lu, China Agricultural University, Beijing, China (Donghui Lu, Zhiqin Wang, Decheng Wang)
Development and Experimental Study of Vibration Scarifier for Meadow
Xiang-qian Dong, College of Engineering, China Agricultural University, Beijing, China
Design and Experimental Study on Vibration Spacing Subsoiler for Grassland
Xiang qian Dong, College of Engineering, China Agricultural University, Beijing, China



Technical Sessions



Tuesday, July 31 - 9:30AM-12:00PM

SESSION 202

| Time | Paper # | Title/Authors |
|--------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121338226 | Introduction Evaluating the Effect of Moisture Content on Litter Deposition when using a Spinner-disc Spreader Equipped with VRT Virk S. Simerjeet, Auburn University, Auburn, AL (S.S. Virk, J.P. Fulton, O.O. Fasina, T.P. McDonald, J.B. Hall) |
| 9:50AM | 121338078 | Potential of Fertilizer Segregation during Site-Specific Application when using Spinner-disc Spreaders Ravinder K. Thaper, Auburn University, Auburn, AL (R.K. Thaper, J.P. Fulton, T.M. Donald, O. Fasina, C.W. Wood, Gregory L. Pate, AmritPal Singh) |
| 10:05AM | 121337472 | Droplet Spectra Characteristics from a Variable-Orifice Nozzle at Constant Pressures Joe D. Luck, University of Kentucky, Lexington, KY (J.D. Luck, M.P. Sama, S.K. Pittla, and S.A. Shearer) |
| 10:20AM | 121338330 | The concept for a variable rate controller with real-time setup of Viacheslav Adamchuk, McGill University, Ste-anne-de-bellevue, QC, Canada (V.I. Adamchuk, J. Lenz and A.S. Mat Su) |
| 10:35AM 10:45AM | 121341054 | Break Robotic precision spraying methods Ron Berenstein, Ben-Gurion University of the Negev, Beer-Sheva, Israel (Ron Berenstein, Yael Edan) |
| 11:00AM | 121340831 | Improving the field CV of aerial topdressing through computer controlled pre-scription delivery Ian Yule, Massey University, Palmerston North, New Zealand (Miles Grafton, Ian Yule) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 203

| Time | Paper # | Title/Authors |
|--------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121338240 | Introduction Comparison of Two Spectrometers for Profile Soil Carbon Sensing Kenneth A. Sudduth, University of Missouri, St. Louis, MO (Anna M Hodge, Kenneth A Sudduth) |
| 9:50AM | 121337939 | Spatial data clustering using neighbourhood analysis Nandkishor M. Dhawale, Department of Bioresource Engineering, Sainte-anne-de-bellevue, QC, Canada (Nandkishor M. Dhawale, Viacheslav I. Adamchuk, Shiv O. Prasher, Pierre R. L. Dutilleul) |
| 10:05AM | 121341198 | Feasibility study of an all-solid-state ISE using quaternary ammonium compounds for soil nitrate-nitrogen fast determination Miao Zhang, China Agricultural University, Beijing, China (Miao Zhang, Maohua Wang, Simon Ang, Gang Liu) |
| 10:20AM 10:30AM | 121340645 | Break Intra-Row Weed Recognition Using Plant Spacing Information in Stereo Images Yong Chen, College of Mechanical and Electronic Engineering, Nanjing Forestry University, Nanjing, China (XiaoJun Jin, Yong Chen, Lie Tang) |
| 10:45AM | 121340922 | Comparison of Uniform and Targeted Discrete-Flame Weeding Methods for Inter-row Weed Control in Maize Planting Mohammad Loghavi, Shiraz University, Shiraz, Islamic Republic of Iran (Reihaneh Loni and Mohammad Loghavi) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 204

| Time | Paper # | Title/Authors |
|--------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121338095 | Introduction Assessment of Cotton Plant Nitrogen Status and Yield Potential Using Plant Height Mapping System Ruixiu Sui, USDA-ARS, Stoneville, MS (Ruixiu Sui, Daniel K. Fisher, and Krishna N. Reddy) |
| 9:50AM | 121336923 | Ground-Based Technologies for Cotton Root Rot Control: an Update Curtis D. Cribben, Texas A&M University, College Station, TX (Curtis D. Cribben, J. Alex Thomasson, Yufeng Ge, Matthew D. Korte, Cristine L. S. Morgan, Chenghai Yang, Robert L. Nichols) |
| 10:05AM | 121338355 | Evaluating Field Performance of a Cotton Stripper Wesley M. Porter, Oklahoma State University, Stillwater, OK (Wesley M. Porter, John D. Wanjura, Randal K. Taylor, Randal K. Boman, Mike Buser) |
| 10:20AM | 121337470 | Determining A Process For Dehulling Cottonseed Jacob Nunneley, Texas A&M University, College Station, TX (J. Nunneley W. B. Faulkner M. Shimek G. Holt T. Wedegaertner) |
| 10:35AM 10:45AM | 121337285 | Break Optimal biomass blends for biodegradable molded packaging produced from fungal mycelium Greg A. Holt, USDA-ARS, Lubbock, TX (Greg Holt, Gavin McIntyre, Eben Bayer, John Wanjura, Mathew Pelletier) |

| | | |
|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11:00AM | 121336898 | 2012 Update - Characterization of Cotton Gin Particulate Matter Emissions Study Michael D. Buser, Oklahoma State University, Stillwater, OK (M.D. Buser, D.P. Whitelock, J.C. Boykin, and G.A. Holt) |
| 11:15AM | 121336902 | Characterization of Cotton Gin Particulate Matter Emissions - Database Development Michael D. Buser, Oklahoma State University, Stillwater, OK (Daniela Aranda Caro, Michael D. Buser, Derek P. Whitelock, J. Cliff Boykin, Laura McConnell.) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 205

| Time | Paper # | Title/Authors |
|--------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121338350 | Introduction Estimating phosphorus loading from forested hillslopes and watersheds with the WEPP model William J. Elliot, USDA Forest Service, Moscow, ID (W. J. Elliot, E. A. Bruner, E. Brooks and D. M. Traeumer) |
| 9:50AM | 121337239 | Development a Fluvial Detachment Rate Model to Predict the Erodibility of Cohesive Soils under the Influence of Seepage Abdulsahib Al-Madhachi, Oklahoma State University, Stillwater, OK (Abdulsahib Al-Madhachi, Garey A. Fox, Greg Hanson, Advhesh Tyagi, and Rifat Bulut) |
| 10:05AM | 121337241 | Controlled Laboratory Experiments Investigating the Influence of Shallow Groundwater Tables on Runoff through Vegetative Filter Strips Garey A. Fox, Oklahoma State University, Biosystems and Agricultural Engineering, Stillwater, OK (Rebecca Purvis, Garey A. Fox, Rafael Munoz-Carpena) |
| 10:20AM | 121338103 | Analysis of digital values from multispectral aerial imagery to assess water quality parameters of Tibbee Creek in Clay County, Mississippi Joel Paz, Mississippi State University, Mississippi State University, MS (Shane A. Irvin, Joel O. Paz, David Evans) |
| 10:35AM 10:45AM | 121338205 | Break Wetland Change and Cause Recognition in Georgia Coastal Plain Sudhanshu S. Panda, Institute of Environmental Spatial Analysis, Oakwood, GA (Panda, S.S., K. Burry, and P. Taylor) |
| 11:00AM | 121337361 | Predicting Water Table Response to Fluctuations in Canal Stage in Farmlands East of Canal-111 in southern Florida Isaya Kisekka, University of Florida, Agricultural and Biological Engineering Department, Homestead, FL (Isaya Kisekka, Kati Migliaccio, R. MuOoz-Carpena, B. Schaffer, Y.C. Li, and T. Boyer) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 206

| Time | Paper # | Title/Authors |
|--------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121337476 | Introduction Nutrient Concentrations of Runoff as Affected by the Diameter of Unconsolidated Materials from Feedlot Surfaces John E. Gilley, USDA-ARS, Lincoln, NE (John E. Gilley, Gregory D. Boone, David B. Marx) |
| 9:50AM | 121337082 | Storage Capacities of Level Terraces in the Republican River Basin of Nebraska, Kansas, and Colorado Dean E. Eisenhauer, University of Nebraska/Biological Systems Engineering, Lincoln, NE (Dean Eisenhauer, Alan Boldt, James Koelliker, Derrel Martin, Phillip Barnes) |
| 10:05AM | 121338100 | Effect of pH in vegetative filter strips in reducing manure borne soluble nutrients runoff Md. A. Rahman, North Dakota State University, Fargo, ND (Atikur Rahman and Shafiqur Rahman) |
| 10:20AM | 121337081 | Turbidity Monitoring in Goldstream Creek, Alaska for Potential TMDL Development Debasmita Misra, University of Alaska Fairbanks, Fairbanks, AK (Debasmita Misra) |
| 10:35AM 10:45AM | 121338096 | Break Temporal and Spatial Distribution of Soluble Reactive Phosphorus in Groundwater at a Dairy Farm in the Suwannee River Basin of Florida Runbin Duan, University of Florida, Gainesville, FL (Runbin Duan, George J. Hochmuth, Wendy Graham, and Don Graetz) |
| 11:00AM | 121337301 | Phosphorus Slug Dynamics in an Urban Stream Brian E. Haggard, Arkansas Water Resources Center, Fayetteville, AR (Haggard BE, LB Massey, CR Koch, JT Scott, MA Evans-White, BJ Austin, and EE Scott) |
| 11:15AM | 121337668 | Real-Time Phosphorus Concentration in an Urban Stream Leslie B. Massey, Arkansas Water Resources Center, Fayetteville, AR (LB Massey, BE Haggard, CR Koch, JT Scott, MA Evans-White, BJ Austin and EE Scott) |
| 11:30AM | 121337254 | Microbial Profiling of Pathogen Concentrations using GIS Mapping Nafisa H. Sirelkhatim, NC A&T State University, Greensboro, NC (Nafisa Sirelkhatim, Dr.Godfrey Gayle, Dr. Stephanie Teasley) |



Technical Sessions



Tuesday, July 31 - 9:30AM-12:00PM

SESSION 207

| Time | Paper # | Title/Authors |
|--------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121337273 | Introduction Development and evaluation of SWAT-DRAIN a new model to simulate the surface flow and subsurface drainage Golmar Golmohammadi, McGill, Ste Anne De Bellevue, QC, Canada (Golmar Golmohammadi, Shiv Prasher, Ali Madani, Mohamed Youssef) |
| 9:50AM | 121336822 | Applicability of MIKE SHE in modeling hydrology in heavily tile drained land and effects of changing drainage characteristics on hydrology Matthew Helmers, Iowa State University, Ames, IA (Andrew Frana, Xiaobo Zhou, Matthew Helmers) |
| 10:05AM | 121338157 | An integrated, multi-scale modeling system for assessing conservation benefits in subsurface drained watersheds Vinayak S. Shedeekar, The Ohio State University, Columbus, OH (Vinayak S. Shedeekar, Kevin W. King, Larry C. Brown) |
| 10:20AM | 121338210 | Comparative performance of DRAINMOD and ADAPT models in predicting nitrate-N losses through tile drainage systems in southern Minnesota Srinivasulu Ale, Texas AgriLife Research, Vernon, TX (Srinivasulu Ale, Prasanna Gowda, David Mulla, and Daniel Moriasi) |
| 10:35AM 10:45AM | 121336908 | Break The Hydrology of a Drained Topographical Depression within an Agricultural Field in North Central Iowa Jason L. Roth, US Geological Survey, Minneapolis, MN (Roth, J. L. and P. D., Capel) |
| 11:00AM | 121338083 | Electrical Conductivity as a tool to estimate chemical properties of drainage water quality in the Des Moines Lobe, Iowa Michelle Soupir, Iowa State University, Ames, IA (Rohith K. Gali, Michelle L. Soupir, and Matthew J. Helmers) |
| 11:15AM | 121337763 | DRAINMOD-DSSAT Simulation of the Hydrology, Nitrogen Dynamics and Plant Growth for a Drained Corn Field in Indiana, U.S.A Mohamed Youssef, NCSU, Raleigh, NC (Negm L.M., Youssef M.A., Skaggs R.W., Chescheir G.M., James A.L.) |
| 11:30AM | 121338236 | Predicting dissolved organic nitrogen export from a poorly drained loblolly pine plantation using modified version of DRAINMOD-NII Shiying Tian, North carolina State University, Raleigh, NC (S. Tian, M. A. Youssef, R.W. Skaggs, G.M. Chescheir, D.M. Amatya) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 208

| Time | Paper # | Title/Authors |
|--------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121337122 | Introduction Deficit Irrigation Management for Multiple Fields and Years in the Great Plains Derrel L. Martin, University of Nebraska - Lincoln, Lincoln, NE (Raymond Supalla, Chris Thompson and Gary Hergert) |
| 9:50AM | 121337131 | Estimation of crop coefficients from AVHRR-based normalized difference vegetation index and determination and analyses of trends in seasonal evapotranspiration in relation to changing climate in the USA High Plains Denis Mutibwa, University of Nebraska-Lincoln, Lincoln, NE (Dr. Denis Mutibwa and Dr. Suat Irmak) |
| 10:05AM | 121337290 | INVESTIGATION OF POTENTIAL CHANGES IN GROUNDWATER ELEVATION IN OHIO, USING HISTORICAL WELL DATA Kpoti M. Gunn, The Ohio State University, Columbus, OH (Kpoti M. Gunn; James A. Gallaher; Larry C. Brown) |
| 10:20AM | 121337056 | Water Balance for a West and a Midwest Watershed Dave Bjorneberg, USDA ARS, Kimberly, ID (Dave Bjorneberg and Kevin King) |
| 10:35AM 10:45AM | 121337856 | Break Quantifying Water Use and Efficiency on Dairy Farms Throughout Michigan Kyle L. McLachlan, Dept. of Biosystems & Agricultural Engineering, East Lansing, MI (McLachlan, Faivor, Holzwart, Safferman, Cullens, Osborne) |
| 11:00AM | 121337623 | Global Sensitivity Analysis of a drought index model - Agricultural Reference Index for Drought (ARID) Yogesh Khare, University of Florida, Gainesville, FL (Yogesh Khare, Dr. Christopher Martinez) |
| 11:15AM | 121341028 | Optimal Water Allocation Based on Real Time Climatic Data Masoud Parsinejad, University of Tehran, Karaj, Islamic Republic of Iran (Bemani, A., Sh., Araghinejad, M. Sarai) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 209

| Time | Paper # | Title/Authors |
|------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121337022 | Introduction Evaluation of ET Based "Smart" Controllers During Droughts Charles Swanson, Texas Agrilife Extension Service, College Station, TX (Charles Swanson, Guy Fipps) |
| 9:50AM | 121337268 | Evaluation of the Performance of Symthetic Canal Liners Guy Fipps, Texas A&M, College Station, TX (Guy Fipps, Askar Karimov) |

| | | |
|--------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:05AM | 121338163 | Fate and Transport of Antibiotic/Growth Promoter, Monensin, in Soil in the Presence of a Nonionic Surfactant Eman M. Elsayed, McGill University, Ste Anne De Bellevue, QC, Canada (Ramanbhai Patel) |
| 10:20AM | 121337966 | Water and nutrient leaching losses from turf lawns using different closed-loop irrigation methods Nicole Dobbs, University of Florida, Homestead, FL (Nicole Dobbs, Kati W. Migliaccio, Michael Dukes, Kelly Morgan, Yuncong Li) |
| 10:35AM 10:45AM | 121336823 | Break Wastewater Application with Mechanized Irrigation - Choosing the Right Materials and Equipment Andrew K. Smith, Reinke Irrigation, Boyne City, MI (Andrew K. Smith) |
| 11:00AM | 121338358 | The Impact of Material Components in Irrigation Pipe Applications White G. Jee, Ingenia Polymers Group, Houston, TX (White G. Jee, Ingenia Polymers and Sarah Patterson, The Dow Chemical Company) |
| 11:15AM | 121337371 | The "Real" Cost of Air in Drip Irrigation Systems James D. Anshutz, Netafim Irrigation, Fresno, CA (James Anshutz, Avner Kobliner) |
| 11:30AM | 121340627A | Hydraulic Analysis of an Online Pressure Compensating Emitter Using CFD-CSD Technology Vincent F. Bralts, College of Water resource and Architectural Eng., Northwest A&F University, Yangling, China; Purdue University, West Lafayette, IN (Wene Wang, Vincent F. Bralts, Jing Wang) |

Tuesday, July 31 - 9:30AM-12:30PM

SESSION 210

| Poster # | Paper # | Title/Authors |
|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | 121340917 | A dynamic, energy-efficient routing protocol for wireless sensor networks used in wheat field environment monitoring Siyu Li, China Agricultural University, Beijing, China (Siyu Li, Hongju Gao, Dong Liang) |
| 02 | 121341225 | An Ontology-based Collaborative Service Framework for Agricultural Information - A Case in Mountain Areas in Central China Yongjun Zheng, China Agricultural University, Beijing, China (Zheng Yongjun, Yang Sainan, Yubin Lan, Li Dandan, Chen Yingyi, Tan Yu) |
| 03 | 121341224 | Combine Harvester Status Monitor System Based on Wireless Sensor Network Yongjun Zheng, CAU, Beijing, China (Yin Y., Zheng Y., Zhang C., Tan Y., Lan, Y., Wang S.) |
| 04 | 121341223 | Communication protocol in chassis detecting wireless transmission system based on WIFI Yongjun Zheng, CAU, Beijing, China (He, J., Zheng, Y., Zhang, C., Tan, Y., Lan, Y., Wang, S.) |
| 05 | 121340653 | Development of Automated Manual Transmission of Agricultural Tractor Using Electric Actuators Yong-joo Kim, LS Mtron Ltd., Anyang, Republic of Korea (Yong-Joo Kim, Chang-Hyun Choi, Dae-Hyun Lee) |
| 06 | 121341024 | Research on the Methods of Path Recognition and Control in Navigation System of Agricultural Implement Based on Machine Vision Gang Liu, China Agriculture University, Beijing, China (Qingquan Meng; Fei Yang; Gang Liu; Mingxuan Li) |
| 07 | 121338298 | Managing pasture mixtures to improve forage quality Tamie L. Veith, USDA-ARS, University Park, PA (T. L. Veith and S. C. Goslee) |
| 08 | 121338237 | CFD Simulation of Gas Mixing for Evaluation of Design Alternatives for On-farm Mass-Depopulation of Swine in a Disease Emergency Larry F. Stikeleather, NC State University, Raleigh, NC (L. F. Stikeleather, W.E.M. Morrow, R.E. Meyer, B.V. Halbert, C.L. Baird) |
| 09 | 121341052 | Mapping and CFD Modeling of the Aerial and Thermal Environment of Broiler Chickens during the Initial Growing Phase Inside a Negative Pressure Barn Jairo S. Osorio, National University of Colombia, Medellin, Colombia (Robinson Osorio Hernandez; Luciano B. Mende; Jairo A. Osorio Saraz; Keller S. O. Rocha; Ilda de F. F. Tinoco; Richard S. Gates) |
| 10 | 121341138 | Structural Optimization and Modal Analysis for the Framework of Herbage Cutting Machine Sangni Cai, China Agricultural University, Beijing, China (Sangni Cai, Decheng Wang, Hongbin Ren, Guanghui Wang, Hongfang Yuan, Wencheng Huang) |
| 11 | 121345167 | The Dynamic Simulation of A Hydraulic Lifting Device of Seeder Based on ADAMS Yang Gao, China Agricultural University/student, Beijing, China (Yang Gao, Decheng Wang, Jie Yang, Guanghui Wang, Xiaogang Ma, Liyan Peng) |
| 12 | 121345168 | The Analysis of A Hydraulic Lifting Device of Seeder Based on Finite Element Yang Gao, China Agricultural University/student, Beijing, China (Yang Gao, Decheng Wang, Jie Yang, Guanghui Wang, Xiaogang Ma, Liyan Peng) |
| 13 | 121337612 | Quantitative Determination of Pesticide Concentration by Raman Chemical Method Kuanglin Chao, USDA/ARS, Beltsville, MD (Kuanglin Chao, Jianwei Qin, Moon Kim, Diane Chan, Yuche Cheng) |
| 14 | 121337308 | Nondestructive analysis of single plant canola (Brassica napus) seeds using near infra-red spectroscopy Harjot K. Sidhu, North Dakota State University, Fargo, ND (Harjot Sidhu, Darrin Haagenen, and Dennis Wiesenborn) |
| 15 | 121340805 | Study on moisture on-line prediction system of extruded feed based on neural networks Jie Yang, China Agricultural University/student, Beijing, China (Jie Yang, Hongying Wang, Erte Wei, Lixia Song) |



Technical Sessions



Tuesday, July 31 - 9:30AM-12:00PM

SESSION 211

MEASUREMENT AND MITIGATION OF GASEOUS POLLUTANTS FROM LIVESTOCK AND POULTRY - PART 3 - Sponsored by SE-305

Moderator: Saqib Mukhtar, Texas A&M University, College Station, TX

LOCATION: TRAVERINE

| Time | Paper # | Title/Authors |
|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121338102 | Greenhouse gas (GHG) emissions from beef cattle pen surfaces in North Dakota Shafiqur Rahman, North Dakota State University, Fargo, ND (Shafiqur Rahman and Kendall Swanson) |
| 9:50AM | 121337635 | Gaseous ammonia emissions estimated from measurements taken at a commercial dairy in California, USA Kori D. Moore, Energy Dynamics Laboratory, North Logan, UT (Kori Moore, Emyrei Young, Randy Martin, Michael Wojcik, Richard Pfeiffer, John Prueger, Jerry Hatfield) |
| 10:05AM | 121337963 | Ammonia and Hydrogen Sulfide Emissions from Naturally Ventilated Freestall Dairy Barns Pius M. Ndegwa, Department of Biological Systems Engineering, Pullman, WA (Hung-Soo Joo, Pius M. Ndegwa, Albert J. Heber, Ji-Qin Ni, W.W. Bogan, Juan Carlos Ramirez-Dorronsoro, Erin Cortus) |
| 10:20AM | 121337965 | Emissions of Greenhouse Gases from Naturally Ventilated Freestall Dairy Barns Pius M. Ndegwa, Department of Biological Systems Engineering, Pullman, WA (Hung-Soo Joo, Pius M. Ndegwa, Albert J. Heber, Ji-Qin Ni, W.W. Bogan, Juan Carlos Ramirez-Dorronsoro, Erin Cortus) |
| 10:35AM | | Break |
| 10:45AM | 121337962 | Emissions of ammonia and greenhouse gases (GHG) from anaerobically digested and undigested dairy manure systems Pius M. Ndegwa, Department of Biological Systems Engineering, Pullman, WA (Hung-Soo Joo, Pius M. Ndegwa, Joe Harrison, Elizabeth Whitefield, Albert J. Heber, Ji-Qin Ni) |
| 11:00AM | 121337200 | Hydrogen Sulfide emission from dairy barns: a mechanistic approach Felipe Montes, Pasture Systems and Watershed Management Research Unit, ARS-USDA, University Park, PA (Felipe Montes, Clarence A. Rotz, Sasha D. Hafner, Rosa Jarvis) |
| 11:15AM | 121337674 | Effect of Anaerobic Digestion on Volatile Fatty Acids in Dairy Manure Laura H. Page, Purdue University, Department of Agricultural and Biological Engineering, West Lafayette, IN (Laura Page, Ji-Qin Ni, Albert J. Heber, Nathan S Mosier, Xingya Liu, Hung-Soo Joo, Pius M. Ndegwa) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 212

ANIMAL RESPONSES AND ENVIRONMENTS - Sponsored by SE-301

Moderator: John Stinn, Iowa State University, Ames, IA

LOCATION: STEUBEN

| Time | Paper # | Title/Authors |
|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337509 | Effects of air velocity, temperature, and humidity on production efficiency of heavy broiler chickens Joseph L. Purswell, USDA-ARS, Mississippi State, MS (J.L. Purswell, W.A. Dozier III, H.A. Olanrewaju, J.D. Davis, and S.L. Branton) |
| 9:50AM | 121337006 | Comparison of Sound Pressure Levels in Handling Facilities to Stress Levels in Beef Cattle Christina Lyvers, University of Kentucky, Lexington, KY (Christina M Lyvers, George B Day, Eric Vanzant, Douglas G Overhults) |
| 10:05AM | 121340578 | Automatic Identification of Activity Levels of Broiler Chickens with Different Gait Scores in a Small Flock Claudia Bahr, Catholic University of Leuven, Heverlee, Belgium (A. Aydin, C. Bahr, A. Pluk, D. Berckmans) |
| 10:20AM | 121338172 | Development of an Audio and Video Observation and Recording Platform for Data Collection in a Broiler Growout Environment Simeon Harbert, Georgia Tech Research Institute, Atlanta, GA (Simeon Harbert, Douglas F. Britton, Wayne D. R. Daley, David V. Anderson, Guillermo Colon, Matthew Giannelli, Erin Hanson) |
| 10:35AM | | Break |
| 10:45AM | 121337152 | Application of Wireless EEG to Measure Stress in Ducks Eric R. Benson, University of Delaware, Newark, DE (E.M. Pritchett, E.R. Benson, A.I. Johnson, M.E. Persia, H. Xin, R.L. Alphin) |
| 11:00AM | 121337173 | Factors affecting airflow measurement validity through naturally ventilated monoslope beef barns Erin L. Cortus, South Dakota State University, Brookings, SD (Cortus, E.L., Al Mamun, M.R., Pohl, S., Nicolai, R.E.) |
| 11:15AM | 121338297 | Feedlot cattle heat stress risk assessment analysis Tami M. Brown-Brandt, USDA-ARS-MARC, Clay Center, NE (T.M. Brown-Brandt and D.D. Jones) |
| 11:30AM | 121338106 | Ammonia Tolerance of Laying Hens Considering Social Effects and Previous Experience Glogerley T. Sales, University of Illinois, Urbana-Champaign, IL (Sales, G. T.; A.R. Green, R.S. Gates, T.M. Brown-Brandt, R.A. Eigenberg) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 213

ANIMAL MANURE MANAGEMENT SYSTEMS - Sponsored by SE-412

Moderator: Cherie LaFleur, USDA NRCS, Fort Worth, TX

LOCATION: PERIDOT

| Time | Paper # | Title/Authors |
|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337539 | Calculation of Poultry Manure Production in Indiana Jeffrey W. Lai, Purdue University, West Lafayette, IN (Jeffrey Lai, Ji-Qin Ni, Albert J. Heber, Todd Applegate) |
| 9:50AM | 121337866 | Economical Anaerobic Digestion of CAFO Animal Waste Matthew J. Germane, Germane Environmental Consulting, LLC, Hartland, MI (Matthew Germane, Tom Menke) |
| 10:05AM | 121340581 | Analysis the effects of grower's experience and literacy on Benefit to Cost Ratio of broiler farms in Yazd province of Iran Ahmad Tabatabaefar, University of Tehran, Karaj, Islamic Republic of Iran (Ahmad Tabatabaefar, Mohammad Davoud Heidari, Mahmoud Omid, Asadollah Akram) |
| 10:20AM | | Break |
| 10:30AM | 121336858 | Sudden Failure of a 13-Year Old Manure Storage Reservoir Benjamin C. Doerge, USDA-NRCS, Fort Worth, TX (Benjamin C. Doerge) |
| 10:45AM | 121336921 | Case Study: Closure of Earthen Lagoon Catherine M. Nash, USDA-NRCS, Temple, TX (Catherine Nash) |
| 11:00AM | 121336865 | Revealing of swine manure foaming issue Mi Yan, University of Minnesota-Twin Cities, Saint Paul, MN (Mi Yan, Bo Hu) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 214

DESIGN, ANALYSIS, TESTING AND ASSEMBLY OF STRUCTURES - Sponsored by SE

LOCATION: OBELISK A

| Time | Paper # | Title/Authors |
|--------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121340881 | Development of the method to evaluate for concrete with freezing-thawing using infrared thermography Jin seon Park, Chungbuk national university, Cheongju, Republic of Korea (Jin seon Park, Jeongbae Jeon, Hyeongyeol Lee, Seongsoo Yoon) |
| 9:50AM | 121337793 | Design and Assembly of a Poultry Production Simulation Chamber Complex for Air Quality and Animal Welfare Studies Lingjuan W. Wang-Li, North Carolina State University, Raleigh, NC (Lingjuan Wang-Li, Roberto Munilla, Steven Badawi, Mike Adcock, Carl Tutor) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 215

LED LIGHTING FOR ANIMALS, PLANTS AND EQUIPMENT - INVITED PRESENTATIONS - Sponsored by SE-302, PM-23/4/3

Moderator: Melissa Brechner, Cornell University

LOCATION: OBERLISK B

Target Audience: Controlled environment agriculture and animal housing
Learning Objectives: To understand what LED products are on the market today and the performance capabilities of those products. This special session will feature both manufacturers showcasing their latest products and researchers documenting their experience with LED products.
Benefits: The 'complete story' featuring both manufacturers detailing what they believe their products can achieve, and academics providing quantitative results from experiments with the products.

Presentations will be made by representatives from GE, Orbitec, LumaVue, Phillips, NexGen, and Cycloptics

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 216

ERGONOMICS FOR INJURY PREVENTION AND ACCOMMODATING DISABILITIES - Sponsored by ESH

LOCATION: MONTE CARLO

| Time | Paper # | Title/Authors |
|---------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337199 | Evaluation of Operator Mental Workload in Controlling a Mechanical Weeding System Fadi A. Fathallah, UC Davis, Davis, CA (Fathallah, F.A., Slaughter, D.S., Miller, B.J., Giever, C.J., and Ruiz, M.P.) |
| 9:50AM | 121337196 | Ergonomic Evaluation of Three Hoes for Close-to-Plant Weeding Fadi A. Fathallah, UC Davis, Davis, CA (Fathallah, F.A., Slaughter, D.S., Miller, B.J., Giever, C.J., and Ruiz, M.P.) |
| 10:05AM | 121338093 | Reducing Process Errors in the Design of Agricultural Assistive Technology Robert W. Stuthridge, National AgrAbility Project, West Lafayette, IN (Stuthridge, R.W., Field, W.E.) |
| 10:20AM | 121337413 | Enhancing Access to Greenhouse Facilities in Compliance with ADA Guidelines Lisa M. Johnson, The Ohio State University, Columbus, OH (Lisa M. Johnson and S. Dee Jepsen) |
| 10:35AM | | Break |
| 10:45AM | 121406108 | Enhancing Worksites Mobility for Farmer/Ranchers with Physical Disabilities Robert Struthridge, Purdue University, West Lafayette, IN (Steve Swain) |
| 11:00AM | 121406112 | The effectiveness of the WiFit as an intervention to prevent the risk of lower back injuries Simeon Harbert, Ga Tech/GTRI, Atlanta, GA (Simeon Harbert, Linda Harley, Tyler Vaughn, Jay Zuerndorfer) |



Technical Sessions



11:15AM 121406114 Selecting appropriate combine harvester based on ergonomic criteria with analytical hierarchy process technique
Ahmad Tabatabaiefar, University of Tehran, Karaj, Islamic Republic of Iran

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 217

CO-PROCESSING AND CONVERSION OF BIOMASS, COAL AND OTHER WASTE MATERIALS

Moderator: Kaushlendra Singh, West Virginia University, Morgantown, WV
LOCATION: PLUM BLOSSOM A

| Time | Paper # | Title/Authors |
|--------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121338411 | Introduction Combustion Behavior and Pollutant Emissions in Co-firing Switchgrass on a 60-Megawatt Pulverized Coal-fired Boiler Xiaofei P. Ye, University of Tennessee, Knoxville, TN (Xiaofei P. Ye, Burton C. English, Leming Cheng, Doug Boylan, Tom Johnson, and Billy Zemo) |
| 9:50AM | 121337326 | Characterization of Woody biomass and MSW for Thermo chemical Conversion Harith K Rojanala, NCAT, Greensboro, NC (Harith K Rojanala, Lijun Wang, G.B Reddy and Abolghasem Shahbazi) |
| 10:05AM | 121337588 | Co-processing of Biomass and Coal to Produce Hybrid Fuel Kaushlendra Singh, West Virginia University, Morgantown, WV (Kaushlendra Singh) |
| 10:20AM | 121337347 | Thermogravimetric characterization of dairy manure as pyrolysis and combustion feedstock Wu Hanjing, University of Nebraska-Lincoln, Lincoln, NE (Hanjing Wu, Milford A. Hanna, David D. Jones) |
| 10:35AM 10:45AM | 121338209 | Break Potential for Increased Capacity of Combined Heat and Power Facilities based on Corn Stover and Forest Logging Residue Availability in Mississippi Selvarani Radhakrishnan, Mississippi State University, Starkville, MS (Selvarani Radhakrishnan, Joel O. Paz, Fei Yu, Sandra Eksiloglu, and Donald L. Grebner) |
| 11:00AM | 121337381 | Anaerobic Co-Digestion of Swine Manure and Corn Stover for Biogas Production Jorge E. Gontupil, NC State University - Biological and Agricultural Engineering Dept, Raleigh, NC (Jorge Gontupil, Honglei Chen, Zhimin Liu, Darwin, Jay J. Cheng) |

Tuesday, July 31 - 9:30AM-12:30PM

SESSION 218

BIOMASS SUSTAINABILITY AND LIFE CYCLE ASSESSMENT OF BIOENERGY SYSTEMS

Moderator: Deepak Kumar, Oregon State University, Corvallis, OR
LOCATION: PLUM BLOSSOM B

| Time | Paper # | Title/Authors |
|--------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121336734 | Introduction Comparative Life-Cycle Assessment of Single-Pass and Multi-Pass Corn Stover Bale Harvesting Systems Ajay Shah, Iowa State University, Ames, IA (Ajay Shah, Matthew J. Darr, Keith Webster, Kevin Peyton) |
| 9:50AM | 121336802 | Development of Net Energy Ratios and Emission Factors for Renewable Diesel Production Pathways Patrick E. Miller, University of Alberta, Edmonton, AB, Canada (Patrick Miller, Amit Kumar) |
| 10:05AM | 121337404 | Effects of Torrefaction on Particle Size Distribution of Corn Stover Jeremy Brue, Iowa State University, Ames, IA (Jeremy Brue, Dr. Matthew Darr) |
| 10:20AM | 121341085 | Environmental impact of Ethanol production in Wisconsin - influence on the resource use of energy and land connected with its global warming potential Simone Kraatz, Leibniz Institute for Agricultural Engineering Potsdam-Bornim, Potsdam, Germany (Simone Kraatz, Douglas J. Reinemann, Julie Sinistore) |
| 10:35AM | 121340790 | Developing a combination model of agricultural machine for optimization GHG's based on LCA Hyeongryul Lee, Chungbuk national university, Cheongju, Republic of Korea (Jin seon Park, Jeongbae Jeon, Hyeongryeol Lee, Gyuha Kim, Seongsu Yoon.) |
| 10:50AM 11:00AM | 121337364 | Break Modeling Peanut Butter Production for Greenhouse Gas Emissions James McCarty, University of Arkansas, Fayetteville, AR (James McCarty, Marty Matlock, Ph.D., P.E and Heather Sandefur) |
| 11:15AM | 121341016 | Carbon footprint of Irish milk production Nicholas M. Holden, UCD School of Biosystems Engineering, University College Dublin, Dublin, Ireland (M-J Yan) |
| 11:30AM | 121337137 | Cradle-to-gate Life Cycle Assessment of Locally Produced Beef in the Palouse Region of Northwestern US Daniel J. Roop, University of Idaho, Moscow, ID (Daniel Roop, Dev Shrestha) |
| 11:45AM | 121340986 | An Production and Consumption Analysis of CO2 in Rural Area using Remote Sensing (in Korea) Jeongbae Jeon, Chungbuk National University, Cheongju, Republic of Korea (Jeongbae Jeon, Sangil Na, Seongsu Yoon) |

Tuesday, July 31 - 9:30AM-12:30PM

SESSION 219

LIQUID BIOFUELS DEVELOPMENT RESEARCH - PART 1

LOCATION: CORAL

| Time | Paper # | Title/Authors |
|------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM 9:35AM | 121338287 | Introduction An improved process for ethanol production from sugar beet employing enzymatic hydrolysis and fermentation Steven M. Zicari, UC Davis, Davis, CA (Steve Zicari, Natthiporn Aramrueang, Chang Chen and Ruihong Zhang) |

9:50AM 121337943 **Enzymatic Liquefaction and Saccharification of Sugar Beet Leaves for Biofuel Production**

| | | |
|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:05AM | 121337566 | Ozonolysis and dilute acid pretreatment on extruded feedstocks to improve enzyme saccharification Kasiviswanathan Muthukumarappan, sdsu, Brookings, SD (CiEment Viaud, K. Muthukumarappan, and C. Karunanithy) |
| 10:20AM | 121336989 | Extrusion-Microwave sequential pretreatment of switchgrass and big bluestem Karunanithy Chinnadurai, sdsu, Brookings, SD (C. Karunanithy, K. Muthukumarappan, and W.R. Gibbons) |
| 10:35AM | 121338125 | Enzymatic Hydrolysis and Fermentation of Whole Sugar Beets for Ethanol Production Scott W. Pryor, NDSU, Fargo, ND (Nurun Nahar, Bishnu Karki, Scott W. Pryor) |
| 10:50AM | 121338412 | Pretreatment of Corn Stover for Enzymatic Saccharification Improvement by Using the Combination of Alkaline Reagents at Mild Temperatures Ximing Zhang, North Carolina State University, Raleigh, NC |
| 11:05AM | | Break |
| 11:15AM | 121337312 | Low cost medium for ethanol production using novel moderately alkaliphilic Alkalibaculum bacchi CP15 Kan Liu, Oklahoma State University, Stillwater, OK (Kan Liu, Hasan K. Atiyeh, Ralph S. Tanner, Mark R. Wilkins, Raymond L. Huhnke) |
| 11:30AM | 121336990 | Extrusion-Ozone sequential pretreatment of switchgrass and big bluestem Karunanithy Chinnadurai, sdsu, Brookings, SD (C. Karunanithy, K. Muthukumarappan, and W.R. Gibbons) |
| 11:45AM | 121337222 | Pretreatment of corn stover with ionic liquid in mild condition Feng Xu, Kansas State University, Manhattan, KS (Feng Xu, Donghai Wang) |
| 12:00PM | 121338427 | Pretreatment of switchgrass using solid niobium acid catalysts Yane O. Ansanay, North Carolina State University, Raleigh, NC (Y. Ansanay, P. Kolar, R. S. Sharma, and J. J. Cheng) |
| 12:15PM | 121338127 | SyPath: An algorithm for generating metabolic pathways leading to novel bio-fuels Ryan S. Senger, Virginia Tech, Blacksburg, VA (Ryan Senger) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 220

FUTURE DIRECTIONS AND OPPORTUNITIES FOR SUSTAINABLE BIOENERGY R&D - PANEL DISCUSSION - Sponsored by T-11, FPE-709

Moderator(s): Sundhagar Mani, K. Singh, Ajay Kumar, University of Georgia

LOCATION: EMERALD

Target Audience: Researchers, scientists and company staffs involved in bioenergy research
Learning Objectives: To learn vision and new funding opportunities and future directions in the bioenergy field
Benefits: To gain research and future funding perspectives from the federal funding agencies.

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 221

BIOLOGICAL ENGINEERING DIVISION POSTER SESSION - Sponsored by BE

Moderator: TBA

LOCATION: GRAND BALLROOM

| Poster # | Paper # | Title/Authors |
|----------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16 | 121337942 | Develop and Scale Up Aqueous Surfactant-assisted Extraction of Canola Oil for Use As a Biodiesel Feedstock Nattapong Tuntiwattanapun, North Dakota State University, Fargo, ND (N. Tuntiwattanapun, C. Tongcumpou, D. Wiesenborn) |
| 17 | 121338441 | Life cycle assessment of a microalgae culture system in open raceways Yifan Liang, University of Arizona, Tucson, AZ (Liang, Yifan; Drevry Jessica; Choi, Christopher Y.) |
| 18 | 121337327 | Renewable hydrocarbons produced from glucose by aqueous-phase reforming process Quan Bu, Bioproducts, Sciences and Engineering Laboratory, Richland, WA |
| 19 | 121338123 | Recovery and efficacy of cellulases immobilized on magnetic core polymer brushes Scott W. Pryor, NDSU, Fargo, ND (A. Samarutunga, O. Kudina, N. Nahar, S. Minko, A. Voronov, S. W. Pryor) |
| 20 | 121341137 | Experimental Study on Cutting and Chopping Corn Straw Hongfang Yuan, China Agricultural University, Beijing, China (Hongfang Yuan, Decheng Wang, Guanghui Wang, Zuoli Fu, Sangni Cai, Fang Liang) |
| 21 | 121337086 | Optimization of Human Lysozyme Production by Kluyveromyces lactis K7 in Biofilm Reactor Ali Demirci, Pennsylvania State University, University Park, PA (Duygu Ercan and Ali Demirci) |
| 22 | 121337650 | Study of chemical composition of lignocellulosic feedstocks from different sites of conservation reserve program lands Deepak Kumar, Oregon State University, Corvallis, OR (Deepak Kumar, Ankita Juneja, William Hohenschuh, John D. Williams and Ganti S. Murthy) |
| 23 | 121338059 | Interpreting the mechanism of ultrasonication pretreatment of switchgrass Ratna R. Sharma-Shivappa, Biological and Agricultural Engineering, North Carolina State University, Raleigh, NC (Rajat Sharma, Ratna R. Sharma-Shivappa, Michael Boyette, Larry Stikeleather) |
| 24 | 121338027 | Improving In-stream Pathogen Predictions Using SWAT Pramod K. Pandey, Iowa State University, Ames, IA (ML Soupir, C Ikenberry, CR Rehmann, MK Jha) |



Technical Sessions



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|----|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 25 | 121338116 | Evaluation of Heat Shock Protein 70A (HSP70A) in the Environmental Stress Responses of <i>Chlamydomonas reinhardtii</i> Sarah Short, University of Kentucky, Lexington, KY (Sarah Short, Czarena Crofcheck, Seth DeBolt, Jozsef Stork, Aubrey Shea) |
| 26 | 121337670 | Nanobead and aptamer based QCM biosensor for rapid detection of avian influenza virus Luke D. Brockman, University of Arkansas, Fayetteville, AR (Luke Brockman, Ronghui Wang, Jacob Lum, Lisa Kelso, and Yanbin Li) |
| 27 | 121337032 | Temperature influence on the growth of <i>Scenedesmus</i> and <i>Chlorella</i> Czarena Crofcheck, University of Kentucky, Lexington, KY (Keelin Cassidy, Aubrey Shea, Czarena Crofcheck, Michael Montross, Mark Crocker, Rodney Andrews) |
| 28 | 121338058 | Enzymatic production of biodiesel from cottonseed oil using <i>Rhizopus oryzae</i> whole cell biocatalysts: effect of acyl acceptor type, amount, and moisture content Ratna R. Sharma-Shivappa, Biological and Agricultural Engineering, North Carolina State University, Raleigh, NC (Sneha Athalye, Ratna Sharma Shivappa, Praveen Kolar, Jack Davis, Steve Peretti) |
| 29 | 121340893 | Effect of leachate recirculation on the solid state anaerobic digestion of corn stover Yebo Li, Ohio State University, Wooster, OH (Zhongjiang Wang, Jian Shi, Yebo Li) |
| 30 | 121337804 | Crop Water Stress Index and Non-Stressed Baseline of Corn Grown in the State of Wyoming, US Marcelo A. Abritta, University of Wyoming, Laramie, WY (Marcelo Aguiar Abritta, Axel Garcia y Garcia) |
| 31 | 121337894 | Developing a methodology for optimal design of LID practices in the coastal zones Mijin Seo, Texas A&M University, College Station, TX (Mijin Seo, Fouad Jaber) |
| 32 | 121338061 | Optimization of alkaline pretreatment for energy canes Ratna R. Sharma-Shivappa, North Carolina State University, Raleigh, NC (Anushadevi Panneerselvam, Ratna Sharma-Shivappa, Praveen Kolar, Thomas Ranney) |
| 33 | 121338294 | Evaluation of necessary lab scale support for an algae CO₂ mitigation system installed at a coal fire power plant Tabitha L. Graham, University Of Kentucky, Lexington, KY (A. Shea, C. Crofcheck, M. Montross, M. Crocker, and R. Andrews) |
| 34 | 121337352 | Effect of Acid, Steam Explosion and Size Reduction Pretreatments on Bio-oil Production from Sweetgum, Switchgrass and Corn Stover Hui Wang, Mississippi State University, Starville, MS (Hui Wang, Radhakrishnan Srinivasan, Fei Yu, Philip Steele, Qi Li, Brian Mitchell, Aditya Samala) |
| 35 | 121338057 | Production of Polyhydroxybutyrate (PHB) by <i>Alcaligenes latus</i> using sugarbeet juice Ratna R. Sharma-Shivappa, Biological and Agricultural Engineering, North Carolina State University, Raleigh, NC (Bingqing Wang, Ratna R. Sharma-Shivappa, Jonathan W. Olson, Saad A. Khan) |
| 36 | 121341018 | Digital Capacitance Sensor for Grain Moisture Content Measurement Zhizhuang Liu, Department of Electronic Engineering, Hunan University of Science and Engineerin, Yongzhou, China; Oklahoma State University, Stillwater, OK (Zhizhuang Liu, Ning Wang, Yongbo Wan) |
| 37 | 121338131 | FITSelect: A synthetic construct to enrich genomic libraries for product formation Ryan S. Senger, Virginia Tech, Blacksburg, VA (Ryan Senger) |
| 38 | 121337930 | Preparation and Characterization of Superhydrophobic Composite Membrane for Pervaporation Concentration of Ethanol Kwabena Darkwah, North Carolina A & T State University, Greensboro, NC (Kwabena Darkwah, Lijun Wang and Abolghasem Shahbazi) |
| 39 | 121340838 | Chemical and microbiological characterization of quail wastes Ilda F. Tinoco, Universidade Federal de Viçosa - UFV, Viçosa, Brazil (Marilí Santos Sousa, Cecília de F-tima Souza, Ilda de F-tima Ferreira TinÚco, Keles Regina Antony Inoue, AntÚnio Teixeira de Matos) |
| 40 | 121341055 | Modeling waterborne pathogens and climate change impacts in agricultural watersheds Rory Coffey, University College Dublin (UCD), Dublin, Ireland (Coffey R., Cummins E., Benham B. and Wolfe M. L.) |
| 41 | 121336843 | The Untold Story of Conserved Residues in the Active Site of Glucosidases: DFT and hybrid QM-MM Study Somayesadat Badiayan, Virginia Tech, Blacksburg, VA (Somayesadat Badiayan, David R. Bevan, Chenming Zhang) |

Tuesday, July 31 - 9:30AM-12:00PM SESSION 222

| Time | Paper # | Title/Authors |
|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337828 | Continuous enzyme production with filamentous fungi using a trickle bed reactor Mark R. Wilkins, Oklahoma State University, Stillwater, OK (Michael Mueller, Mark R. Wilkins, Fernando Segato, Hasan Atiyeh, Andrew J. Mort, Rolf Prade) |
| 9:50AM | 121337884 | Effects of Controlled Flow Cavitation and Cellulose Hydrolysis on Commercial Scale Dry Mill Ethanol Yield David A. Ramirez, The Ohio State University/OARDC, Wooster, OH (David A. Ramirez, Oleg Kozzyuk, Frederick C. Michel Jr.) |
| 10:05AM | 121337975 | Physicochemical Properties and Adhesion Performance of Canola Protein Modified with Sodium Bisulfite Ningbo Li, Kansas State University, Manhattan, AR (N. Li, G. Qi, X.S. Sun, M.J. Stamm, D. Wang) |

| | | |
|---------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:20AM | 121338324 | Operating air velocities for fiber separation from corn flour using the Elusieve process Tejas S. Pandya, Agri & Biological Engg, P.O.Box 9632, Starkville, MS (Tejas Pandya, Radhakrishnan Srinivasan, Jason Johnson) |
| 10:35AM | | Break |
| 10:45AM | 121337873 | Influence of Electron Acceptors on Kinetics of Ethanol Fermentation by <i>E. coli</i> K12 Michael Ngadi, McGill University, Ste-anne-bellevue, QC, Canada (Hern-n Rey S-nchez Solano, Peter Adewale, Michael Ngadi) |
| 11:00AM | 121337798 | Purification of a recombinant cellulolytic enzyme from transgenic corn Lisa R. Wilken, Kansas State University, Manhattan, KS (Lisa R. Wilken, Georgia O.F. Barros, Reuben Sequiera, Susan L. Woodard, Elizabeth E. Hood, Zivko L. Nikolov) |
| 11:15AM | 121337160 | Evaluating the implementation of Ethanol co- products as viable feed alternative Lope G. Tabil, UNIVERSITY OF SASKATCHEWAN, Saskatoon, SK, Canada (Elizabeth George, Lope G. Tabil and Venkatesh Meda) |

Tuesday, July 31 - 9:30AM-12:00PM SESSION 223

| Time | Paper # | Title/Authors |
|---------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337837 | Ammonia removal using nitrification and anammox in a fluidized single reactor Matias B. Vanotti, USDA-ARS, Florence, SC (M.B. Vanotti, J. Martinez, T. Fujii, A. Szogi) |
| 9:50AM | 121340974 | Partial nitrification at high nitrogen loading rate and low HRT in an aerobic reactor fed with swine wastewater Airtun Kunz, EMBRAPA Swine and Poultry, Concordia, Brazil (Marcelo Vivan, Airtun Kunz, Marcio Silva, Marcelo Bortoli and Hugo Soares) |
| 10:05AM | 121336855 | Return Flow Nutrient and Sediment Removal on Surface Irrigated Row Crops Through the use of Vegetated Buffer Strips Brian W. Bodah, Washington State University, Pullman, WA (Bodah, Brian W.; Ullman, Jeffrey L.; Munoz-Carpene, Rafael; Kiker, Gregory A.; Perez-Ovalla, Oscar; Pan, William; Peters, R. Troy; Stannard, Mark) |
| 10:20AM | 121340977 | Partial nitrification + ANAMMOX processes for nitrogen removal from swine wastewater Airtun Kunz, Embrapa Swine and Poultry, Concordia, Brazil (Marina Celant De Pr., Airtun Kunz, Marcelo Bortoli, Tiago Perondi, AngÉlica Chini, HugoM. Soares) |
| 10:35AM | | Break |
| 10:45AM | 121337515 | Restored salt marsh: A source or a sink for nitrogen? James R. Etheridge, North Carolina State University, Raleigh, NC (J. Randall Etheridge, FranÁois Birgand, Michael R. Burchell II) |
| 11:00AM | 121338208 | Sediment and Nutrient Removal in Wetland Treatment Swales with Native Vegetation Stephanie G. Prellwitz, University of Wisconsin-Madison, Madison, WI (Stephanie G. Prellwitz, Anita M. Thompson, James M. Doherty, Joy B. Zedler) |
| 11:15AM | 121337535 | Biological Nitrogen Removal in Biofilters Enhancing Nitrification-Anammox Process: Considerations of Design Parameters Wendong Tao, State University of New York College of Environmental Science and Forestry, Syracuse, NY (Jianfeng Wen, Wendong Tao) |

Tuesday, July 31 - 7:30AM-9:00AM SESSION 224

| Time | Paper # | Title/Authors |
|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337664 | Impact of fiber diameter on mechanical properties of flax based composite Satyanarayan Panigrahi, University of Saskatchewan, Saskatoon, SK, Canada (Satya Panigrahi, Anisur Rahman, Radhey Lal Kushwaha, Lope Tabil) |
| 9:50AM | 121340755 | Some Physical Properties of African Nutmeg (<i>Monodora Myristica</i>) Seed Relevant to its Processing Akindele F. Alonge, University of Uyo, Uyo, Nigeria (Alonge A.F and Udofof U. J) |
| 10:05AM | 121337823 | Conservation Agriculture for Food Security in the Philippines Manuel R. Reyes, North Carolina A&T State Univ, Greensboro, NC (A. Mercade, V. Ella, E.I. Edralin, S. Boulakia, M. Reyes) |
| 10:20AM | | Break |

Tuesday, July 31 - 9:30AM-12:00PM SESSION 225

| Time | Paper # | Title/Authors |
|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337664 | Impact of fiber diameter on mechanical properties of flax based composite Satyanarayan Panigrahi, University of Saskatchewan, Saskatoon, SK, Canada (Satya Panigrahi, Anisur Rahman, Radhey Lal Kushwaha, Lope Tabil) |
| 9:50AM | 121340755 | Some Physical Properties of African Nutmeg (<i>Monodora Myristica</i>) Seed Relevant to its Processing Akindele F. Alonge, University of Uyo, Uyo, Nigeria (Alonge A.F and Udofof U. J) |
| 10:05AM | 121337823 | Conservation Agriculture for Food Security in the Philippines Manuel R. Reyes, North Carolina A&T State Univ, Greensboro, NC (A. Mercade, V. Ella, E.I. Edralin, S. Boulakia, M. Reyes) |
| 10:20AM | | Break |



Technical Sessions



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|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:30AM | 121340632 | The "Threads" of Biosystems Engineering Nicholas M. Holden, University College Dublin, Dublin, Ireland (D. Briassoulis, E. Gallego, M. Pantaleo, N. Holden, P. Owende, K.C. Ting, K. Mallikarjunan) |
| 10:45AM | 121337040 | Can ASABE members take part in addressing global food security issues? Curtis L. Weller, University of Nebraska-Lincoln, Lincoln, NE (Curtis L. Weller) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 226

| Time | Paper # | Title/Authors |
|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | INNOVATIONS IN CURRICULUM - PART 1 - Sponsored by ED-205, ED-206 |
| 9:35AM | 121337973 | LOCATION: MING Introduction A Comparison of Instructional Methods on Computer-Aid Engineering Design Used in China and United States Universities Ning Wang, China Agricultural University, Beijing, China; Oklahoma State University, Stillwater, OK (Zhang Yanie, Chulho Yang, Li Li, Ning Wang) |
| 9:50AM | 121337232 | Local Industry Collaboration in Developing Precision Agriculture Course in North Dakota Ganesh C. Bora, North Dakota State University, Fargo, ND |
| 10:05AM | 121337373 | Impact of Two Course Content Delivery Systems on Student Learning Darren H. Jarboe, Iowa State University, Ames, IA (Darren H. Jarboe and D. Raj Raman) |
| 10:20AM | | Break |
| 10:30AM | 121337374 | Student Perspectives on a New Biomass Production Module for Fundamentals of Biorenewable Resources Darren H. Jarboe, Iowa State University, Ames, IA (Darren H. Jarboe and D. Raj Raman) |
| 10:45AM | 121338308 | Integrating the humanities and engineering: The implications of an interdisciplinary-based learning module Tim Foutz, The University of Georgia, Athens, GA (Tim Foutz, Sid Thompson, Maria Navarro, Kerri Patrick Singer) |

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 227

SUPPLY OF HIGH TONNAGE FEEDSTOCK - INVITED PRESENTATIONS - Sponsored by T-11, FPE-709, PM-23/7/2
Moderator(s): Shahab Sokhansanj, Erin Webb, Kevin Kenney, Sam Tagore, ORNL
LOCATION: MANCHESTER
The U.S. Department of Energy announced in August 2009 selected five projects that will develop supply systems to handle and deliver high tonnage biomass feedstocks for cellulosic biofuels production. The awards were part of the department's ongoing efforts to reduce U.S. dependence on foreign oil, spur the creation of the domestic bio-industry and provide new jobs in many rural areas of the country. The chosen awards were selected as the best projects to stimulate the design and demonstration of a comprehensive system to handle the harvesting, collection, preprocessing, transport, and storage of sufficient volumes of sustainably produced feedstocks. Feedstocks or combinations of feedstocks that were considered include: agricultural residues, energy crops (e.g., switchgrass, miscanthus, energycane, sorghum, poplar, willow), forest resources (e.g., forest thinnings, wood chips, wood wastes, small diameter trees), and urban wood wastes.
Cellulosic Ethanol Feedstock Delivery System Development
Kevin Comer, FDC Enterprises
Supply Systems for Short-Rotation Woody Biomass
Tim Volk
High-Volume Switchgrass Harvest and Supply in the Southeast
Al Womac, University of Tennessee
Challenges in Harvesting and Storing Stover
Maynard Herron, AGCO Corp
Forest Residue Harvest for Bioenergy
Steve Taylor

Tuesday, July 31 - 9:30AM-12:00PM

SESSION 228

| Time | Paper # | Title/Authors |
|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | VALUE-ADDED BIOCOMPOSITES AND BIOCHEMICALS FROM FOREST AND AGRICULTURAL BIOMASS - Sponsored by T-11, FPE-709 |
| 9:35AM | 121338346 | LOCATION: VERANDAH PARKVIEW Introduction Product Distribution of Hydrothermal Conversion for Two Types of Algae and Mixtures with Swine Manure Wan-ting Chen, University of Illinois at Urbana-Champaign, Urbana, IL (Wan-Ting Chen, Jixiang Zhang, Yuanhui Zhang, Peng Zhang, Guo Yu, Mitchell Minarick) |
| 9:50AM | 121337542 | Cellulose nanowhisker-poly(lactic acid) composites Jin Gu, Penn State University, University Park, PA (Jin Gu and Jeffrey Catchmark) |
| 10:05AM | 121338056 | Nutrient Fate and Pathogen Assessment of Solid Liquid Separators Following Digestion or Bedding Recovery Units Rebecca Larson, University of Wisconsin-Madison, Madison, WI (R. Larson) |

Tuesday, July 31 - 2:30PM-6:00PM

SESSION 229

| Time | Paper # | Title/Authors |
|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | HARVEST SYSTEMS FOR BIOMASS FEEDSTOCKS - Sponsored by PM-23/7/2, FPE-702, FPE-709, PM-43 |
| 2:35PM | 121338182 | LOCATION: BATIK A Introduction Impact of Cutting Speed, Blade type, and Blade Angle on Miscanthus Harvesting Power Requirement Justin Maughan, University of Illinois at Urbana-Champaign, Urbana, IL (J. D. Maughan, B. M. Fehrenbacher, S. K. Mathanker, A. C. Hansen, and T. E. Grift) |
| 2:50PM | 121337627 | Single-pass Baling of Corn Stover Kevin Shinnars, Univ. of Wisconsin, Madison, WI (J. Keene, K. Shinnars) |
| 3:05PM | 121337653 | Analysis of the effects of grain logistics in the single-pass baling productivity Keith E. Webster, Iowa State University, Ames, IA (Webster, K E; Darr, MJ; Peyton, K) |
| 3:20PM | 121338326 | Single Pass Grain and Biomass Harvest for Wheat and Corn in Western Kentucky Aaron P. Turner, University of Kentucky Dept of Biosystems and Agricultural Engineering, Lexington, KY (Aaron P. Turner, Michael D. Montross, William Adams, Chris Foster, John Posselius, Drew Lewis) |
| 3:35PM | 121338312 | Particle-size distribution of harvested high-tonnage sorghum J. Alex Thomasson, Texas A&M University, College Station, TX (B. E. Hartley, J. A. Thomasson, and S. W. Searcy) |
| 3:50PM | 121338166 | Assessment of utilization and maintenance times of biomass harvesting equipment Benjamin R. Covington, Iowa State University, Ames, IA |
| 4:05PM | 121338217 | Dry Matter Losses During Harvest and Storage of High Biomass Sorghum in Texas Stephen W. Searcy, Texas A&M University, College Station, TX (Brandon E. Hartley, J. Alex Thomasson) |
| 4:20PM | | Break |
| 4:30PM | 121338376 | The Economics of the Dual Harvest of Grain and Biomass in a Single-pass Matthew T. Wold, University of Nebraska-Lincoln, Lincoln, NE (Wold, Matthew T.; Kocher, Michael F.; Keshwani, Deepak R.; Jones, David D.) |
| 4:45PM | 121338179 | Development of On-vehicle Sensing and Mapping System for Bioenergy Crop Harvesting Sunil K. Mathanker, University of Illinois at Urbana-Champaign, Urbana, IL (S. K. Mathanker, J. D. Maughan, A.C. Hansen and T.E. Grift) |
| 5:00PM | 121341036 | Spatial Attitude of Lodged Sugarcane in Field Qingting Liu, Key Laboratory of Key Technology on Agricul, South China Agricultural University, Guangzhou, China (Qingting Liu, Jinkan Chen, Yinggang Ou) |
| 5:15PM | 121338071 | Harvest Schedule to Fulfill Inventory for Truck Transport Robert D. Grisso, Virginia Tech, Blacksburg, VA (R.D. Grisso, D. McCullough, J.S. Cundiff and J. Judd) |
| 5:30PM | 121338024 | Harvest of natural shrubs and small trees on abandoned farmland with a biobaler Philippe Savoie, Universit  Laval, Qu bec, QC, Canada (FranAois-Simon Robert, Philippe Savoie, Pierre Luc H bert) |
| 5:45PM | 121337666 | Configuring Harvest Teams for Optimal Efficiency within a Local Harvesting Region Levi J. Powell, Iowa State University, Ames, IA (Powell, Darr, Covington, Peyton, Webster) |

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 230

| Time | Paper # | Title/Authors |
|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | CROP AND SOIL SENSING FOR PRECISION AGRICULTURE - PART 2 - Sponsored by PM-54, IET-353 |
| 2:35PM | 121338437 | LOCATION: BATIK B Introduction System and Algorithm Development for Automatic Corn Stalk Identification Using Laser Line-Scan Technique Yeyin Shi, Oklahoma State University, Stillwater, OK (Yeyin Shi, Ning Wang, Randal K. Taylor) |
| 2:50PM | 121337985 | Use of a Moving Platform for Field Deployment of Plant Sensors Pedro Andrade-sanchez, Ph.d., University of Arizona, Maricopa, AZ (P. Andrade-Sanchez, J.T. Heun, M.A. Gore, A.N. French, E. Carmo-Silva, M.E. Salvucci) |
| 3:05PM | 121345197 | Hyperspectral Imaging for Detecting Water and Nitrogen Stresses in Potatoes Manoj Karkee, Washington State University, Prosser, WA (Suraj Amatya, Bikram Adhikari, Manoj Karkee) |
| 3:20PM | 121337501 | Corn Sensor Development for By-Plant Management Jorge A. Rascon, Oklahoma State University, Stillwater, OK (Jorge Rascon, Randy Taylor, Bill Raun, Wes Porter) |
| 3:35PM | | Break |
| 3:45PM | 121338089 | Detection of Plant Water Stress Using Leaf Temperature measurements for grapevines Rajveer S. Dhillion, University of California, Davis, CA (Rajveer Dhillion, Vasu Udompetaiikul, Francisco Rojo, Shrini Upadhyaya, David Slaughter, Bruce Lampinen, and Ken Shackel) |
| 4:00PM | 121340830 | A comparison of the performance of VIS/NIR sensors used to inform nitrogen fertilization strategies Ian Yule, Massey University, Palmerston North, New Zealand (Ian Yule, Phillippa McVeagh, Jemma Mackenzie.) |



Technical Sessions



4:15PM 121341120 On-the-Go Laser-based Sensing System for Measuring Plants Height Using an Autonomous Tractor
Tofael Ahamed, Graduate School of Life and Environmental Sciences, University of Tsukuba, Tsukuba Science City, Japan (Tofael Ahamed, Noguchi Ryoza, Tomohiro Takigawa)

Tuesday, July 31 - SESSION 231A

2:30PM-3:30PM GEOSPATIAL TECHNOLOGIES AND ANALYSIS FOR DECISION MAKING -
Moderator: TBA
LOCATION: DARDANELLES
Title/Authors
Introduction
Scope, scale, scenario, synthesis and sensitivity rules of thumb in eco-environmental modeling and decision support systems
Zewei Miao, University of Illinois at Urbana-Champaign, Urbana, IL (Zewei Miao and Zehua Miao)
2:50PM 121340992 Precise soil sampling method for agricultural and environmental research based on new circular soil probe apparatus
Milan Mesic, University of Zagreb, Faculty of Agriculture, Zagreb, Croatia (Mesic Milan, Vukovic Ivana, Kisic Ivica, Zgorelec Zeljka, Jurisic Aleksandra)
3:05PM 121341153 Time-windows Based Temporal and Spatial Scheduling Model for Agricultural Machinery Resources
Caicong Wu, Peking University, Beijing, China (Yaping Cai, Caicong Wu, Mengjia Luo, Huaihong Su, Lianjun Ding)
3:20PM 121337243 Evaluating GreenSeekerE Sensors for Disease Detection in Peanuts
Gary Roberson, North Carolina State University, Raleigh, NC (Davron Isaev, Gary T. Roberson)

Tuesday, July 31 - 3:30PM-5:00PM SESSION 231B

INNOVATIONS IN EDUCATION AND OUTREACH FOR PRECISION AGRICULTURE - 231B - Sponsored by PM-54
Moderator: Wesley M. Porter, Oklahoma State University, Stillwater, OK
LOCATION: DARDANELLES
Title/Authors
Introduction
Crowdsourcing App for Precision Agriculture Decision Making
Dharmendra Saraswat, University of Arkansas Division of Agriculture Cooperative Extension Service, Little Rock, AR (D. Saraswat and N. Banerjee)
3:50PM 121338142 Experiences of Extension Education on Via Online Delivery of Programming Related to Precision Agriculture Technologies
Donald K. Shannon, University of Missouri Extension, Columbia, MO
4:05PM 121337220 Implementation of Precision Agriculture Extension Programming
Matthew J. Darr, Auburn University, Auburn, AL (J.P. Fulton, T. Griffin, A. Winstead, M. Darr, B. Ortiz)
4:05PM 121337219 Optimization of Field Traffic Patterns using Precision Agriculture Technologies
Aurelie Poncet, Auburn University, Auburn, AL (A.M. Poncet, J.P. Fulton, T.P. McDonald, G. Pate, B. Tisseyre)
4:20PM 121336787 Quantified Machinery Errors In Planting & Tillage Operators
Andrew Kissel, Iowa State University, Ames, IA (Christopher Murphy, Cody Van Drie, Eric Mensen, Clint Luellen, Matthew Darr, Andrew Kissel)
4:35PM 121337510 Designing a Feedlot Operation Using ArcGIS and AutoCAD-An Extension Method
Joshua J. Jackson, University of Kentucky, Lexington, KY (Josh Jackson, Sam McNeill, Mike Montross)

Tuesday, July 31 - 2:30PM-5:15PM SESSION 232

ADVANCES IN COTTON ENGINEERING - PART 2 - Sponsored by PM
LOCATION: INVERNESS
Title/Authors
Introduction
Uncertainty analysis for cotton gin PM10 emissions
J. Cliff Boykin, Jr., USDA ARS Cotton Ginning Research Unit, Stoneville, MS (J. Cliff Boykin, Jr., Mike D. Buser, Derek P. Whitelock, and Greg A. Holt)
2:50PM 121337147 Cotton Gin Particulate Matter Emissions - No. 1 Dryer and Cleaner
Derek P. Whitelock, USDA-ARS Southwestern Cotton Ginning Research Laboratory, Mesilla Park, NM (D.P. Whitelock, M.D. Buser, J.C. Boykin, and G.A. Holt)
3:05PM 121337149 Cotton Gin Particulate Matter Emissions - No. 1 Lint Cleaner
Derek P. Whitelock, USDA-ARS Southwestern Cotton Ginning Research Laboratory, Mesilla Park, NM (D.P. Whitelock, M.D. Buser, J.C. Boykin, and G.A. Holt)
3:20PM 121338015 Advances in Dust Cyclone Research
Paul Funk, USDA-ARS, Mesilla Park, NM (Funk, Whitelock, Baker, Armijo & Hughs)
3:35PM 121336884 Energy Monitoring in Gins- 2011
Robert G. Hardin, USDA-ARS Cotton Ginning Research Unit, Stoneville, MS (Robert G. Hardin IV, Paul A. Funk)
3:50PM Break
4:00PM 121337611 Microwave Drying of Seed Cotton
Kevin D. Baker, USDA, ARS, SW Cotton Ginning Research Lab, Mesilla Park, NM (Kevin D Baker)

4:15PM 121336910 Predicting Seed Cotton Moisture Content from Changes in Drying Air Temperature
Carlos B. Armijo, USDA-ARS Southwestern Cotton Ginning Research Laboratory, Mesilla Park, NM (Carlos B. Armijo, Robert G. Hardin, Paul A. Funk, Marvis N. Gillum)
4:30PM 121336886 Seed Cotton Cleaning Research
Robert G. Hardin, USDA-ARS Cotton Ginning Research Unit, Stoneville, MS (Robert G. Hardin IV, Richard K. Byler)
4:45PM 121337017 Genotype differences in seed coat fragments related to seed fragility and fiber-seed attachment force
J. Cliff Boykin, Jr., USDA ARS Cotton Ginning Research Unit, Stoneville, MS (J. Cliff Boykin, Jr., Patricia D. Bel, Carlos B. Armijo, and Efrem Bechere)
5:00PM 121337000 Impact of storage conditions on quality and processing of ginned lint
Christopher D. Delhom, USDA-ARS-Cotton Structure and Quality, New Orleans, LA (C.D. Delhom, G.R. Gamble, and R.K. Byler)

Tuesday, July 31 - 2:30PM-5:00PM SESSION 233

ECOSYSTEM RESPONSES AND SUSTAINABILITY AS RELATED TO BIOENERGY PRODUCTION - Sponsored by SW-21, T-11, SW-26
Moderator: Margaret Gitau, Florida A&M University, Tallahassee, FL
LOCATION: FLEUR DE LIS A
Title/Authors
Introduction
Total potential yield and impacts on hydrologic cycle and water quality by growing switchgrass and miscanthus on marginal land
Qingyu Feng, Purdue University, West Lafayette, IN (Feng, QY., Chaubey, I., Cibin, R., Young G.H.)
2:50PM 121337141 Water quality impacts of biofuel crop production on marginal lands
Gurdeep Singh, University of Arkansas, Fayetteville, AR (G. Singh, D. Saraswat, and N. Pai)
3:05PM 121338228 Surface and Subsurface Water and Nutrient Dynamics for Biofuel Feedstock Cropping Systems
Ryan S. Stenjem, University of Wisconsin - Madison, Madison, WI (R.S. Stenjem, A.M. Thompson, B.J. Lepore, K.G. Karthikeyan, M. Polich)
3:20PM 121338223 Water Aspect of Three Biofuel Crops in Florida
Gregory Hendricks, University of Florida, Immokalee, FL (G. Hendricks, S. Shukla, Z. Helsel, J. Knowles, and R. Gilbert.)
3:35PM Break
3:45PM 121337424 Impacts of Bioenergy Feedstock Production on the Shallow Groundwater Quality of Drained Forest Lands
Julian F. Cacho, North Carolina State University, Raleigh, NC (J. F. Cacho, M. A. Youssef, G. M. Chescheir, T. W. Appelboom, R. W. Skaggs)
4:00PM 121337030 Optimal selection and placement of energy crops at watershed scale: A multi-objective optimization framework for sustainable bioenergy production
Cibin Raj, Purdue University, West Lafayette, IN (Cibin Raj, Chaubey Indrajeet, and Bernard Engel)
4:15PM 121337210 Using the GR4J and NC Models to Quantify the Hydrologic Effects of Biomass Production
Elizabeth Allen, NCSU, Raleigh, NC (Elizabeth Allen, François Birgand, Vazken Andréassian, Charles Perrin and Chip Chescheir)

Tuesday, July 31 - 2:30PM-5:00PM SESSION 234

APPLICATION OF METEOROLOGICAL AND CLIMATOLOGICAL OBSERVATIONS AND FORECASTS IN WATER RESOURCES - PART 1 - Sponsored by SW-21, SW-252
Moderator: Christopher J. Martinez, University of Florida, Gainesville, FL
LOCATION: FLEUR DE LIS B
Title/Authors
Introduction
ET and Extreme Weather Events - Analysis of the 2011 Texas Drought
Charles Swanson, Texas A&M, College Station, TX (Charles Swanson, Guy Fipps)
2:35PM 121337263 Climate & ET: Does Plant Water Requirement Increase During Droughts
Charles Swanson, Texas Agrilife Extension Service, College Station, TX (Charles Swanson, Guy Fipps, David Smith)
2:50PM 121337021 Historical Extreme Rainfall Events analysis for Kansas
Vahid Rahmani, Kansas State University, Manhattan, KS (Vahid Rahmani, Stacy L. Hutchinson, Shawn Hutchinson, Aavudai Anandhi)
3:05PM 121338338 Trend Analysis of Rainfall and Run-off and its Significance in Irrigation Planning-A Case Study of Sikta Irrigation
Ashish Pandey, IIT Roorkee, Haridwar, India (Ashish Pandey and Hari Datta Paudel)
3:20PM 121340579 Impacts of Climate Change on Extreme Drought Events in Ken River Basin, India
Manoj K. Jain, Indian Institute of Technology, Roorkee, Roorkee, India (Dr. Manoj K. Jain, Mr. Vinit K. Jain and Dr. R.P. Pandey)
3:35PM Break
3:50PM Evaluating Runoff Predictions Between Rainfall Tables and Generalized Distribution Curves for EFH2 with WinTR-20 in New York State
Peter E. Wright, NRCS, Syracuse, NY (Peter Wright, Kimberly Junkins, John Patrick Hock, Michael Martin, William Merkel, Quan Quan, Helen Moody)
4:00PM 121338007 Predicting the Impact of Global Change on Water Supply Stress in the Conterminous U.S
Peter Caldwell, USDA-FS, Raleigh, NC (P. Caldwell, G. Sun, S. McNulty, E. Cohen, J. Moore Myers, R. Bhattari)



Technical Sessions



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|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4:30PM | 121338340 | Development and value of Community Water Deficit Index (CWDI) for drought management in Southeast United States Vaishali Sharda, Auburn University, Auburn, AL (Vaishali Sharda, Puneet Srivastava, Latif kalin, Keith Ingram and Muthuveil Chelliah) |
| 4:45PM | 121337003 | A comparison of two analog-based downscaling methods for regional reference evapotranspiration forecasts Di Tian, University of Florida, Gainesville, FL (Di Tian and Christopher J. Martinez) |

Tuesday, July 31 - 2:30PM-5:15PM

SESSION 235

| Time | Paper # | Title/Authors |
|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | MODELING OF HYDROLOGIC AND NUTRIENT TRANSPORT - PART 1 - Sponsored by SW-21, SW-224 |
| 2:35PM | 121337994 | Moderator: Kati W. Migliaccio, Tropical Research & Education Center, Homestead, FL LOCATION: LALIQUE Introduction Guidelines for Project-Specific Model Validation, Interpretation, and Communication Patricia K. Smith, Texas A&M University, College Station, TX (R.D Harmel, P.K. Smith, K.W. Migliaccio, I. Chaubey, K. Douglas-Mankin, B. Benham, S. Shukla) |
| 2:50PM | 121337666 | Comparing Phosphorus Loss Estimates from an Agricultural Watershed using SWAT and the WI Phosphorus Index Jasmeet Lamba, UW-Madison, Madison, WI (Jasmeet Lamba, Anita Thompson, Laura Good, John Panuska) |
| 3:05PM | 121337057 | Using The Results Of The Conservation Effects Assessment Project Cropland Analysis To Evaluate USDA's Phosphorus Index David C. Moffitt, Texas AgriLIFE Research Texas A&M System, Fort Worth, TX (David C. Moffitt, Jay D. Atwood, M. Lee Norfleet) |
| 3:20PM | 121338046 | Modeling Phosphorus Fate and Transport in Soil using HYDRUS-2D Shuang ye Qiao, McGill University, Ste-anne-de-bellevue, QC, Canada (Qiao SY, Prasher SO, Tan C, Zhang TQ) |
| 3:35PM | 121337976 | Quantifying water quality benefits of wetlands in Bayou Bartholomew watershed using SWAT 2009 Naresh Pai, University of Arkansas, Fayetteville, AR (Naresh Pai; Dharmendra Saraswat) |
| 3:50PM | | Break |
| 4:00PM | 121337426 | Modeling Runoff, Sediment and Water Quality in an Upland Environment John C. Hayes, Clemson University, Clemson, SC (J.C. Hayes, C.V. Privette, III and C.B. Sawyer) |
| 4:15PM | 121340787 | Development of an Agricultural NPS-Web Data Management System for Small Watersheds Jihoon Park, Seoul National University, Seoul, Republic of Korea (Jihoon Park, Moon-Seoung Kang, Inhong Song, Jae-Pil Cho) |
| 4:15PM | 121340781 | The modification of Soil Moisture Deficit calculations using Topographic Wetness Index to account for the effect of slope and landscape position Gillian L. Lewis, University College Dublin, Belfield Campus, Dublin, Ireland (Gillian L. Lewis Professor Nicholas M. Holden) |

Tuesday, July 31 - 2:30PM-5:30PM

SESSION 236

| Time | Paper # | Title/Authors |
|--------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | PLANT RESPONSE TO IRRIGATION - Sponsored by SW-245 |
| 2:35PM | 121338306 | Moderator: Thomas Scherer, North Dakota State University, Fargo, ND LOCATION: WYETH Introduction Evapotranspiration and Crop Coefficients for Irrigated Sunflower in the Southern High Plains Terry A. Howell, USDA-ARS, Bushland, TX (Terry A. Howell, Steven R. Evett, Judy A. Tolk, and Karen S. Copeland) |
| 2:50PM | 121337206 | Effect of Late Season Water Stress on Corn in Northwest Kansas Freddie R. Lamm, Kansas State University, Colby, AR (Freddie Lamm and A. A. Abou Kheira) |
| 3:05PM | 121337600 | Irrigation and nitrogen impact on bermudagrass yield response in the south-eastern Coastal Plain Kenneth C. Stone, USDA-ARS, Florence, SC (K. C. Stone, P. J. Bauer, J. Andrae, W. J. Busscher, J. A. Millen, E. E. Strickland, and D. E. Evans) |
| 3:20PM | 121337835 | Irrigation management to improve corn water use efficiency using mulch and alternate emitter positioning Masoud Parsinejad, University of Tehran, Dearborn, MI (Mostafa Goyandeh Najafabadi, Masoud Parsinejad, Masoumeh Shokrollahi Yancheshmeh) |
| 3:35PM | 121340988 | Comparative Performance of Okra (Abelmoschus Esculentus) Under Drip And Sprinkler Irrigation Systems In The Humid Tropics Of Nigeria Micheal O. Alatise, Federal University of Technology, Akure, Ondo State, Nigeria., Akure, Nigeria (Alatise, M.O., Oladeji, O.O. and Joseph, O.E.) |
| 3:50PM | | Break |
| 4:00PM | 121337401 | Irrigation Interval Effects on Cotton Production Using Subsurface Drip Systems James P. Bordovsky, Texas AgriLife Research, Texas A&M University System, Plainview, TX (James P. Bordovsky, Cora Lea Emerson, and Joe Mustian) |
| 4:15PM | 121341044 | Water Productivity of Biomass and Energy for 24 Brazilian Sugarcane Varieties Under Drip Irrigation Rubens D. Coelho, University of Sao Paulo, Piracicaba, Brazil (Coelho, Rubens Duarte; Maschio, Rafael; Barbosa, Fernando da Silva; Mauri, Robson; Leal, Daniel Philippe Veloso) |
| 4:30PM | 121340859 | Relationship Between Productivity and Indicators of Uniformity in Trickle Irrigation System João C. Saad, Sao Paulo State University - UNESP, Botucatu, Brazil (Saad, Joao Carlos Cury; Silva Junior, Helio Moreira da) |

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|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4:45PM | 121341114 | Productivity and Water Suppression in Different Beans (Phaseolus vulgaris L.) Phenological Stages Thomas J. Miorini, College of Agronomical Science/Sao State University, Botucatu, Brazil (Thomas Miorini; Joao Saad) |
|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Tuesday, July 31 - 2:30PM-5:10PM

SESSION 237

| Time | Paper # | Title/Authors |
|--------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | SUSTAINABLE MANAGEMENT OF LAND RESOURCES TO ADDRESS ECOSYSTEM IMPACTS - Sponsored by SW-26, BE-22 |
| 2:35PM | 121336914 | Moderator: Philip W. Gassman, Iowa State University, Ames, IA LOCATION: TRAVERTINE Introduction A Vineyard Facility Water Quality Planning Tool for TMDL Compliance in the Napa River Watershed Carolyn M. Jones, USDA NRCS, Napa, CA (C.M. Jones) |
| 2:50PM | 121337007 | Cover crop evapotranspiration and impacts on water management in crop production systems Christopher H. Hay, South Dakota State University, Brookings, SD (Hay, Christopher, Jeppe Kjaersgaard, and Brett Hankerson) |
| 3:05PM | 121338043 | An Integrated Modeling System to Estimate Corn Belt Region Nutrient Load Impacts on the Extent of the Seasonal Gulf of Mexico Hypoxic Zone Philip W. Gassmann, Iowa State University, Ames, IA (Philip W. Gassman, Raghavan Srinivasan, Michael White, Manoj Jha, Jeffrey G. Arnold, Catherine L. Kling, R. Eugene Turner, Nancy Rabalais, Sergey Rabotyagov, Adriana Valcu, Jeff Richardson, Monika Moskal) |
| 3:20PM | 121337819 | Evaluating the APEX Model for Organic Vegetable Production Manuel R. Reyes, North Carolina A&T State University, Greensboro, NC (K. Le, M. Reyes, G. Hoyt, D. Osmond, E. Steglich, J. Williams) |
| 3:35PM | | Break |
| 3:45PM | 121336811 | Cost-effective design of reverse auctions for watershed nutrient reductions: a case for observable conservation practices Philip W. Gassman, Iowa State University, Ames, IA (S.S. Rabotyagov, A. Valcu, T. Campbell, P.W. Gassman, M. Jha, and C.L. Kling) |
| 4:00PM | 121337896 | Effects of extreme climatic events on water availability Somsubhra Chattopadhyay, North Carolina A&T State University, Greensboro, NC (Somsubhra Chattopadhyay and Manoj Kumar Jha) |

Tuesday, July 31 - 2:30PM-5:15PM

SESSION 238

| Time | Paper # | Title/Authors |
|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | ADVANCED TECHNOLOGIES IN WASTEWATER TREATMENT - Sponsored by SW-262, FPE-707 |
| 2:35PM | 121337378 | Moderator: Kyle Douglas-Mankin, Kansas State University, Manhattan, KS LOCATION: STEUBEN Introduction Evaluation of reactivation mechanisms in E. coli after photocatalytic disinfection Jasjeet Kaur, Texas A&M University, College Station, TX |
| 2:50PM | 121337669 | Tidal-flow Constructed Wetlands (TFW), for Treating and Reusing High Strength Animal Production Wastewater Leslie Behrends, Living Machine Systems, L3C, Charlottesville, VA (Leslie L. Behrends, Joseph Choperena) |
| 3:05PM | 121338005 | Modeling of Sustainable Design of Bioaugmentation Process with a Proprietary Facultative Bioculture in an Integrated Anaerobic-Aerobic Digestion System for Agricultural Wastewaters Peng Li, University of Illinois at Urbana Champaign, Urbana, IL (Peng Li and Lance C. Schideman) |
| 3:20PM | 121338105 | Evaluation of farm cultural and structural management practices with Nutrient Tracking Tool (NTT) Ali Saleh, Texas Inst. for Applied Environmental Research, Tarleton State University, Stephenville, TX (Ali Saleh, Oscar Gallego, Edward Osei) |
| 3:35PM | | Break |
| 3:45PM | 121337477 | Hydraulic Characteristics of Unconsolidated Surface Materials Located Within Feedlots John E. Gilley, USDA-ARS, Room 251, Chase Hall, Lincoln, NE (John E. Gilley and Gregory D. Boone) |
| 4:00PM | 121338081 | Use of a Resistance Meter to Locate Manure Suitable for Energy Recovery from Beef Cattle Feedyard Pens Roger A. Eigenberg, USDA-ARS, Clay Center, NE (Roger Eigenberg, Bryan Woodbury, and Mindy Spiehs) |



Technical Sessions



Tuesday, July 31 - 2:30PM-5:00PM

SESSION 239

NRCS DESIGN, CONSTRUCTION AND SOIL MECHANICS - INVITED PRESENTATIONS - Sponsored by SW-225, SW-22, SW-25

Moderator: Sherry Hunt, USDA ARS

LOCATION: PERIDOT

The USDA Natural Resources Conservation Services (NRCS) applies sound engineering tools and principles to plan, design, and implement conservation practices and systems through delegated approval authority.

Engineering assistance can be obtained from NRCS field offices, area offices, state offices, national centers, and the Conservation Engineering Division in Washington, DC.

Ft. Worth, Texas is the home of NRCS's National Design, Construction and Soil Mechanics Center (NDCSMC). The NDCSMC provides NRCS with interdisciplinary technical support for design, construction, operation and rehabilitation productivity. Featured speakers from NDCSMC will provide technical information ranging from design to hydraulics to construction to international assistance.

Those tentatively scheduled to make a presentation are:

Johnny Green
Tom Brown
Karl Visser
Dennis Clute
Jon Fripp

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 240

AGRICULTURAL APPLICATIONS OF MOBILE DEVICES AND WIRELESS NETWORKS - Sponsored by IET-254, PM-54

Moderator: Joseph S. Dvorak, Kansas State University, Manhattan, KS

LOCATION: OBELISK A

| Time | Paper # | Title/Authors |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121338463 | Model Improvement and Verification on a Three-tier Wireless Sensor Network for Environmental Monitoring Xu Wang, Kansas State University, Manhattan, AR (Xu Wang, Naiqian Zhang, and Wei Han) |
| 2:50PM | 121340895 | A Real-Time Crop Growth Monitoring System of Maize-field Based on Wireless Sensor Network Dong Liang, China Agricultural University, Beijing, China (Dong Liang, Hongju Gao, Siyu Li, Chunhong Liu) |
| 3:05PM | 121341144 | Study on the frost monitoring for tea plant based on wireless sensor networks Xin-zhong Wang, Jiangsu University, Zhenjiang, China (Wang Xin-zhong; Kong Peng-fei; Wang Min; Yan Run) |
| 3:20PM | | Break |
| 3:30PM | 121340640 | Wireless Sensor Network Development for Soil Moisture Monitoring in Precision Agriculture Man Zhang, China Agricultural University, Beijing, China (Man Zhang, Weizhen Wang, Chunhong Liu, Hongju Gao, Minzan Li) |
| 3:45PM | 121340914 | A movable platform for field information acquisition Minzan Li, China Agricultural University, Beijing, China (Deng Xiaolei, Li Minzan, Zheng Lihua, Sun Jinwen, Shen Hui) |
| 4:00PM | 121338070 | Design of a System to Monitor Youth Workers' Heat Stress and Positioning Using Non-Invasive Techniques Robert D. Grisso, Virginia Tech, Blacksburg, VA (M.K. Kandel, R.D. Grisso, T.E. Diller and A.L. Wicks) |

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 241

MACHINE VISION FOR AGRICULTURAL AND FOOD APPLICATIONS - Sponsored by IET-312

Moderator: Govindarajan Konda Naganathan, University of Nebraska-Lincoln, Lincoln, NE

LOCATION: OBERLISK B

| Time | Paper # | Title/Authors |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121337013 | Development and Application of Multispectral Algorithms for Defect Apple Inspection Chun-chieh Yang, USDA-ARS, Beltsville, MD (Chun-Chieh Yang, Moon S. Kim, Kuanglin Chao) |
| 2:50PM | 121337651 | Feedback Control of High-Power LED Array for Detecting Hairline Cracks in Eggs Kurt C. Lawrence, USDA, ARS, Athens, GA (K. C. Lawrence, S. C. Yoon, W. Wang, D. R. Jones, G. W. Heltschmidt) |
| 3:05PM | 121338313 | Roughness measurement of tracers for grain traceability and effect of formation pressure and constituent formulation J. Alex Thomasson, Texas A&M University, College Station, TX (K. Liang, J. A. Thomasson, T. J. Herrman, Y. Ge) |
| 3:20PM | | Break |
| 3:30PM | 121341220 | Multi-Spectral Images Estimation Models for Detection of Rape Nitrogen Contents Xiaodong Zhang, Jiangsu University, Zhenjiang, China (Zhang Xiaodong, Mao Hanping, Zuo Zhiy, Guan Xianping, Ni Jiheng) |
| 3:45PM | 121340795 | Detecting the quality of dried apricots using fusion information of machine vision and near-infrared spectroscopy Xingyi Huang, Jiangsu University, Zhenjiang, China (Xingyi Huang, Mei Qian, Fubin Xu, Jiewen Zhao) |

4:00PM 121337179

Inspection of Fecal Contamination on Strawberries Using Line-Scan LED-Induced Fluorescence Imaging Techniques
Yung-kun Chuang, USDA-ARS, Beltsville, MD (Yung-Kun Chuang, Moon S. Kim, Chun-Chieh Yang, Diane E. Chan, Suming Chen, Y. Martin Lo)

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 242

SPECTROSCOPIC SENSING APPLICATIONS - Sponsored by IET-348

Moderator: Chari Kandala, USDA-ARS, Dawson, GA

LOCATION: MONTE CARLO

| Time | Paper # | Title/Authors |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121338111 | Microwave Dielectric Behavior of Bound Water in Grain and Seed Samir Trabelsi, ARS-USDA, Athens, GA (Samir Trabelsi and Stuart O. Nelson) |
| 2:50PM | 121338380 | Optical properties of onion tissues scanned within the wavelength range of 400 to 1700 nm Weilin Wang, University of Georgia, Tifton, GA (Weilin Wang, Changying Li, Ron Gitaitis, E. W. Tollner) |
| 3:05PM | 121336887 | Identification of Non-O157 Shiga Toxin-Producing Escherichia coli (STEC) Serotypes with Hyperspectral Microscope Imaging Bosoon Park, USDA, ARS, Athens, GA (B. Park, W.R. Windham, S. Ladely, S.C. Yoon, K.C. Lawrence, N. Narrang, W.C. Cray) |
| 3:20PM | 121337283 | Estimation of Corn Stalk Diameters Using Microwave Scattering Parameters Carol L. Jones, Oklahoma State University, Stillwater, OK (Jones, Carol L., Okiror, Grace P.) |
| 3:35PM | | Break |
| 3:45PM | 121340915 | Application of multi-spectral images and remote sensing in precision crop management Minzan Li, China Agricultural University, Beijing, China (Zhao Ruijiao, Li Minzan, Sun Hong, Zhang Yane, Yang Wei) |
| 4:00PM | 121340916 | Application of NIRS in soil sensing Minzan Li, China Agricultural University, Beijing, China (Xiaofei An, Minzan Li, Lihua Zheng) |

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 243

STRUCTURES AND ENVIRONMENT DIVISION POSTER SESSION

Moderator: Shafiqur Rahman, North Dakota State University

LOCATION: GRAND BALLROOM

| Poster # | Paper # | Title/Authors |
|----------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | 121337338 | Ammonia Adsorption Characteristics of Clinoptilolite (Zeolite) in Livestock and Poultry Houses Hong Li, University of Delaware, Newark, DE (Hong Li, Chris, Xin, Hongwei Xin) |
| 02 | 121337231 | Broiler Facilities in Kentucky: Energy related characteristics of housing and equipment Doug G. Overhults, USDA-ARS Livestock Behavior Unit, Purdue University, West Lafayette, IN (Gabriela M. Morello, Douglas G. Overhults, Igor M. Lopes, John Earnest Jr., Dr. Richard S. Gates, Dr. Tony Pescatore, Dr. Jacquie Jacob, Melissa Miller) |
| 03 | 121337174 | Comparison of pollutant emission rates during the active egg production periods and molting periods for two high-rise layer houses Erin L. Cortus, South Dakota State University, Brookings, SD (Cortus, E.L., Lin, X.J., Heber, A.J. and Zhang, R.) |
| 04 | 121337890 | Effect of bedding material on air quality of bedded manure packs in livestock facilities Mindy J. Spiehs, USDA ARS Meat Animal Research Center, Clay Center, NE (M.J. Spiehs, T.M. Brown-Brandt, D.N. Miller, and D.B. Parker) |
| 05 | 121338084 | Experimental results of a conductive cooling system for dairy cows Fernando Rojano, The University of Arizona, Tucson, AZ (Rojano A. F., Andrade M. A. and Choi C. Y.) |
| 06 | 121337982 | A Multiplexing System for Monitoring Greenhouse and Regulated Gas Emissions from Manure Sources using a Portable FTIR Gas Analyzer Rhonda Miller, Utah State University, Logan, UT (Pakorn Sutitarnnontr, Markus Tuller, Rhonda Miller, Stephen Bialkowski, and Scott B. Jones) |
| 07 | 121338073 | Modification of Dynamic Chambers to Reduce Variability Rhonda Miller, Utah State University, Logan, UT (Brandon Percival and Rhonda Miller, Ph.D.) |
| 08 | 121337597 | Nitrous oxide and methane emissions from beef cattle feedlot surfaces in Texas Kenneth D. Casey, Texas AgriLife Research, Amarillo, TX (K.D. Casey, R.W. Todd, W.B. Faulkner, A.P. Caramanica) |
| 09 | 121337059 | Partitioning of Odorous VOC in Swine Barn Exhaust by Particulate Matter Size David B. Parke, USDA-ARS, Clay Center, NE (David Parker, Tami Brown-Brandt) |
| 10 | 121337337 | PERFORMANCE OF AN INFRARED PHOTOACOUSTIC SINGLE GAS ANALYZER IN MEASURING AMMONIA IN POULTRY BUILDINGS Hong Li, University of Delaware, Newark, DE (Hong Li) |
| 11 | 121340889 | Probability structural analysis of plane strain element using boundary element method Hyeongryul Lee, Chungbuk national university, Cheongju, Republic of Korea (Hyeongryeol Lee, Jin seon Park, Jeongbae Jeon, Seongsu Yoon) |
| 12 | 121337058 | Reduction of odorous VOC in swine manure using soybean peroxidase and calcium peroxide David B. Parker, USDA-ARS, Clay Center, NE (David Parker, Lingshuang Cai, Bryan Woodbury, Mindy Spiehs, Jacek Koziel) |



Technical Sessions



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|----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13 | 121341170 | Spatial Variability of Air Temperature in a Broiler House during the Heating Phase Tadayuki Yanagi, Federal University of Lavras, Lavras, Brazil (Patricia Ferreira Ponciano, Tadayuki Yanagi Junior, Gabriel Araujo e Silva Ferraz, Jose Domingos Scaloni, Leonardo Schiassi) |
| 14 | 121345189 | Study of natural ventilation in reduced scale model of compost bedded pack barn Natural Ventilation in Compost Bedded Pack Barns Using Scale Models Igor M. Lopes, Federal University of Vicosa, Vicosa, Brazil; University of Kentucky, Lexington, KY (Flavio A. Damasceno, Igor Lopes, George B. Day V, Joe L. Taraba, Fernando C. Baeta, and Douglas Overhults) |
| 15 | 121338349 | Task-Based Learning and Memory in Laying Hens Weichao Zheng, China Agricultural University, University of Illinois at Urbana-Champaign, Urbana, IL (Zheng, W., G. T. Sales, A.R. Green and R.S. Gates) |
| 16 | 121341167 | Prediction of Physiological Responses of Holstein Dairy Cows Tadayuki Yanagi, Federal University of Lavras, Lavras, Brazil (Yamid F Hernandez Julio, Tadayuki Yanagi Junior, Maria de F-tima jvila Pires, Marcos A Lopes, Renato Ribeiro de Lima) |
| 17 | 121337620 | Alternative Cooling of Dairy Cows by Udder Wetting Kifle G. Gebremedhin, Cornell University, Ithaca, NY (K. G. Gebremedhin, C.N. Lee, J. E. Larson, J. Davis) |
| 18 | 121341168 | Estimate of the Weight of Japanese Quail Eggs through Fuzzy Sets Theory Tadayuki Yanagi, Federal University of Lavras, Lavras, Brazil (Jaqueline de Oliveira Castro, Alessandro Vieira Veloso, Tadayuki Yanagi Junior, Edison José Fassani, Leonardo Schiassi, Alessandro Torres Campos) |
| 19 | 121337791 | Effects of Environmental and Management Factors on Laying Hen Performance: Field Observations and Simulation Lingjuan W. Wang-Li, North Carolina State University, Raleigh, NC (Qian-Feng Li, Jilan Chen, Lingjuan Wang-Li, Albert J. Heber) |
| 20 | 121336719 | Design and Development of a Large Scale Low-Volume Air Sampling System Adrian A. Koller, Oklahoma State University, Stillwater, OK (Michael D. Buser, Adrian A. Koller, Derek P. Whitelock, Matthew Pelletier) |
| 21 | 121340839 | Evaluation of Fertilizer and Contaminant Potentials of Broiler Litters Typically Found in Tropical and Subtropical Countries as a Function of its Carbon/Nitrogen Ratio and Ammonia Generation Rate at Several Cycles of Reuse Jairo A. Osorio Saraz, National University of Colombia, Medellín, Colombia (Olga Lucia Zapata Marin, Ilda de F-tima Ferreira Tinoco, Richard S. Gates, Cecilia de Fatima Souza, Jairo Alexander Osorio Saraz, Maria de F-tima Araujo Vieira) |
| 22 | 121337899 | Heat production of windrow composting in the broiler houses Min Lei, University of Arkansas, Fayetteville, AR (Min Lei, Yi Liang) |
| 23 | 121336720 | Model-Based Flow Rate Control for an Orifice-Type Low-Volume Air Sampler Adrian A. Koller, Oklahoma State University, Stillwater, OK (Adrian A. Koller, Michael D. Buser, Derek P. Whitelock) |
| 24 | 121336905 | Evaluation of Filter Media and its Impact on Particle Size Analysis Michael D. Buser, Oklahoma State University, Stillwater, OK (Michael D. Buser) |
| 25 | 121338465 | Indoor Environmental Quality of Compost Bedded Dairy Pack Systems in Ohio Lingying Zhao, The Ohio State University, Columbus, OH (Lingying Zhao, Harold Keener, Mary Wicks, Shunli Wang, John Rausch, Amanda Meddles, Michael Klingman, and Roderick Manuzon) |
| 26 | 121340566 | Quantification of Air Exchange Rates and Gaseous Emissions throughout Naturally Ventilated Dairy Barns Alaa K. Kiwan, Leibniz-Institute for Agricultural Engineering Potsdam-Bornim, Potsdam, Germany (A. Kiwan, W. Berg, H.-J. Muller, M. Glaser, M. Fiedler, C. Ammon, R. Brunsch) |
| 27 | 121337359 | Use of transitions on fan testing with the Fan Assessment Numeration System (FANS) unit: design and evaluation Igor M. Lopes, University of Kentucky, Lexington, KY (Igor M. Lopes, George B. Day, Douglas G. Overhults, Richard Gates, Flavio A. Damasceno, Gabriela M. Morello) |
| 28 | 121337637 | AgLite: A 3-wavelength lidar system for quantitative assessment of agricultural air quality and whole facility particulate emissions Kori D. Moore, Energy Dynamics Laboratory, North Logan, UT (Michael Wojcik, Jerry Hatfield, Randy Martin, Kori Moore, Richard Pfeiffer, John Prueger,) |
| 29 | 121340689 | DETERMINATION OF THE BANDS FOR THERMAL COMFORT OF BROILER DIFFERENT AGES Ilda F. Tinoco, Professor, Viçosa, Brazil (Déborah Cunha Cassube, Ilda de F-tima Ferreira Tinoco, Fernando da Costa Balta, Sérgio Zolnier, Maria de F-tima Araújo Vieira, Fernanda Campos de Souza) |
| 30 | 121340811 | Design and Experimental Study on Multilayer Scraper Manure Cleaning System used in Semi-Ladder Coop Rearing Welfare Facility Jie Yang, China Agricultural University, Beijing, China (Heng Li, Baoming Li, Hongying Wang, Tengfei Li, Hongbin Kang, Jie Yang) |

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 244

NEW FRONTIERS IN RENEWABLE POWER GENERATION - INVITED PRESENTATIONS - Sponsored by SE-414

Moderator: Sergio Capareda, Texas A&M Univ, College Station, TX

LOCATION: PLUM BLOSSOM A

Target Audience: ASABE members, engineers, students and renewable energy experts

Learning Objectives: Gain new knowledge in renewable energy for power generation from experts in field

Benefits: Advancement of science and engineering in renewable power generation

| | |
|--------|------------------------------|
| 2:30PM | Introduction |
| 2:35PM | Biomass for Power Generation |
| | Dr. Jay Darr |
| 3:05PM | Geothermal Energy |
| | Dr. Maria Richards |
| 3:35PM | Break |

| | |
|--------|---------------------------------|
| 3:45PM | Solar Energy and Energy Systems |
| | Mr. Roger Jennings |
| 4:15PM | Wind Energy |
| | Dr. Nolan Clark |
| 4:45PM | Discussion |

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 245

| Time | Paper # | Title/Authors |
|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121406107 | Assessing Level of Compliance with Selected OSHA Grain Handling Standards Requirements on a Convenience Sample of Exempt Farms Pam O'Conner, Purdue University, West Lafayette, IN |
| 2:50PM | 121408717 | Addressing Grain Safety Issues Through Coalition Development and Community Based Education Robert Aherin, University of Illinois at Champaign-Urbana, Urbana, IL |
| 3:05PM | 121336841 | Computer Modeling for ROPS Designs Paul Ayers, University of Tennessee, Knoxville, TN (Paul Ayers and Grant Davis) |
| 3:20PM | | Break |
| 3:30PM | 121337103 | Characteristics of Farm Tractor Owner/Operator Participants in a Cost-effective Roll Over Protective Structure (CROPS) Demonstration Project in New York State David L. Hard, NIOSH, Morgantown, WV (David Hard, E.A. McKenzie, Doug Cantis, Julie Sorenson, John May) |
| 3:45PM | 121406110 | Design of a Powered Foldable ROPS Paul Ayers, University of Tennessee, Knoxville, TN (J. Krukeberg, W. Nichols, A. Samba, C. Shaver, C. Bradley) |
| 4:00PM | 121345202 | The Carlisle Hydraulic Brake Booster Application Guide - Complex Hydraulics in a Simple Design Wes Pedersen, Carlisle, Solon, OH (Mark Batchelor) |

Tuesday, July 31 - 2:30PM-5:30PM

SESSION 246

| Poster # | Paper #Title/Authors |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 31 | 121340726 Determination of Physical Properties of Sour Orange Juice Powder Produced by a Spray Dryer Dariush Zare, Shiraz University, Shiraz, Islamic Republic of Iran (D. Zare, A. R. Salehi, M. Niakousari) |
| 32 | 121338214 Dynamic Viscoelastic Properties of Extruded Cornstarch by Dynamic Mechanical Analyzer Srivikorn Ditudompo, Texas Tech University, Lubbock, TX (Srivikorn Ditudompo and Pawan S. Takhar) |
| 33 | 121337848 Effect of degree of milling on rice cooking energy and texture Terry Siebenmorgen, University of Arkansas, Fayetteville, AR |
| 34 | 121337357 Effects of Field Variables on Infield Biomass Bales Aggregation Strategies Igathinathane Cannayen, North Dakota State University, Fargo, ND (C. Igathinathane, C. Gustafson, D. Archer, J. Hendrickson, S. Kronberg) |
| 35 | 121337871 Equilibrium moisture content of hard red wheat varieties and composite samples Michael Montross, University of Kentucky, Lexington, KY (Montross, M., S. McNeill, M. Casada, R. Bhadra, J. Boac, R. Maghirang, S. Thompson) |
| 36 | 121337843 Estimating the theoretical energy required to dry rice Terry Siebenmorgen, University of Arkansas, Fayetteville, AR |
| 37 | 121340792 Evaluation of freshness of pomfret using electronic tongue technique and model identification methods Xingyi Huang, Jiangsu University, Zhenjiang, China (Xingyi Huang, Fangkai han, Liya Yao, Feifei Gu) |
| 38 | 121337144 Evaluation of Waxy Sorghum Hybrids for Ethanol Production Ke Zhang, Kansas State University, Manhattan, KS (Xiaorong Wu, Anne Maier, Tingting Wu, Ningbo Li, Jeff R. Pedersen, Donghai Wang) |
| 39 | 121341181 Evaluation of pork freshness based on multi-channel near-infrared spectroscopy system Yankun Peng, China Agriculture University, Beijing, China (Yankun Peng, Songwei Zhao, Wei Wang, Haiyun Zhang) |
| 40 | 121337685 Global Food Security and Sustainability through Agricultural Education and Training Litha Sivanandan, West Virginia University, Morgantown, WV (L. Sivanandan, J. Jaczynski, K. Singh, W. Burnett, G. Lies, H. Niwas Mishra, K. Matak, M. Ronaghi) |
| 41 | 121338050 Improved prediction of meat and bone meal metabolizable energy content for pigs through in vitro methods Rafael A. Garcia, USDA-ARS, Wyndmoor, PA (Rafael A. Garcia and Olajiwola Adeola) |
| 42 | 121340969 Mathematical modeling of microwave vacuum drying of Chinese yam Qinghua Han, Henan University of Science and Technology, Luoyang, China (Guangyue Ren, Qinghua Han, Xu Duan, Zhihui Mao, Wenxue Zhu) |
| 43 | 121337358 Mechanical shear and tensile characteristics of selected biomass stems Igathinathane Cannayen, North Dakota State University, Fargo, ND (M. Yu, C. Igathinathane, C. Gustafson, J. Hendrickson, M. Sanderson) |
| 44 | 121337998 Multiscale modeling of unsaturated transport during frying of rice crackers Harkirat S. Bansal, Texas Tech University, Lubbock, TX (Harkirat Bansal, Jirawan Maneerote, Pawan Takhar) |
| 45 | 121337999 Pressure Variations During Frying and Cooling Stages in Foods Jaspreet Sandhu, Texas Tech University, Lubbock, TX (Jaspreet Sandhu, Sravan Lalam, Pawan Takhar) |



Technical Sessions



- 46 121337561 **Pyrolysis of Distillers Dried Grains with Solubles**
Kurt A. Rosentrater, Iowa State University, Ames, IA (Christine Wood, Kurt A. Rosentrater, Kasiviswanath Muthukumarappan)
- 47 121337874 **Quality changes in different cultivars of sweet potatoes during deep-fat frying**
Michael Ngadi, McGill University, Ste-anne-de-bellevue, QC, Canada (Amaka Odenigbo, Jamshid Rahimi, Michael Ngadi)
- 48 121341180 **Real-time detection of natural bruises in apple surface using machine vision**
Yankun Peng, China Agriculture University, Beijing, China (Yankun Peng, Juan Zhao, Sagar Dhakal, Tong Zhou)
- 49 121337563 **Techno-Economic Modeling of a Corn-Based Ethanol Plant in 2011**
Kurt A. Rosentrater, Iowa State University, Ames, IA (Christine Wood, Pierre Aubert, Kurt A. Rosentrater, K. Muthukumarappan)
- 50 121337667 **The Effect of Caning on the Bioavailability of Vitamin D2 in Mushrooms (Agaricus bisporus) treated with Ultraviolet Irradiation**
Lamin Kassama, Alabama A&M University, Normal, AL (T. Sanusi, L.S. Kassama, J. Kuppy)
- 51 121337564 **Twin-screw Extrusion Processing of Vegetable-Based Protein Feeds for Yellow Perch (Perca flavescens) Containing Distillers Dried Grains (DDG), Soy Protein Concentrate (SPC), and Fermented High Protein Soybean Meal (FSBM)**
Kurt A. Rosentrater, South Dakota State University, Brookings, SD (Parisa Fallahi, Kasiviswanath Muthukumarappan, Kurt A. Rosentrater)
- 52 121337570 **Twin-screw Extrusion Processing of Rainbow trout (Oncorhynchus mykiss) feeds using Graded Levels of High Protein Corn-based Distillers Dried Grains (HP-DDG)**
Kasiviswanath Muthukumarappan, South Dakota State University, Brookings, SD (Parisa Fallahi, Kurt A. Rosentrater, Kasiviswanath Muthukumarappan)
- 53 121340552 **Specific detection of bacteria in environmental samples using flow cytometry**
Oliver Schuter, Leibniz Institute for Agricultural Engineering Potsdam-Bornim e.V., Potsdam, Germany (Antje Froehling, Henry Jaeger, Oliver Schlueter, Dietrich Knorr, Edith Nettmann)
- 54 121337281 **Role of Microwave in Processing of Flax Fibre (poster)**
Gopu Raveendran nair, McGill University, Montreal, QC, Canada (Gopu Raveendran Nair, Yvan Garipey, Denis Rho and Vijaya Raghavan)
- 55 121340991 **Kernel Extraction Quality in Walnut**
Mazhar Kara, University, Erzurum, Turkey (M. Kara, F. Kalkan, I. Ozturk, S. Bastaban)
- 56 121337402 **Co-gasification of Coal and Appalachian Hardwood: Syngas Composition, Carbon Efficiency and Energy Efficiency**
Jagpinder S. Brar, West Virginia University, Morgantown, WV (Jagpinder S. Brar, Dr. Kaushlendra Singh, Dr. John W. Zondlo, Wenja Jin, Saurabh Kumar)
- 57 121345180 **The Goarundo Model: Developing Sustainable Bioethanol from Giant Reed. First Assessment of Logistics for Biomass Collection**
Remigio Berruto, DEIAFA-University of Turin, Turin, Italy (R. Berruto, P. Busato, R. Chiabrando)
- 58 121345181 **The Bioenergy Farm Project: Web Applications for the Assessment of Biomass Production and Logistics**
Remigio Berruto, DEIAFA-University of Turin, Turin, Italy (R. Berruto, P. Busato)
- 59 121336981 **Measurement of Reactive Distillation Curves of Bio-oil**
Dan Cheng, North Carolina A&T State University, Greensboro, NC
- 60 121341112 **Investigation of the Compression Characteristics of Leymus-chinensis**
Yang Gao, China Agricultural University, Beijing, China (Wang Tianyi, Wang Guanghui, Wang Decheng, Lope G Tabil)
- 61 121340890 **Yield and quality castor and Jatropha oil as a function of organic and mineral fertilizer**
Lucia H. Chaves, Federal University of Campina Grande, Campina Grande, Brazil (Josely Dantas Fernandes; Lucia Helena GarUfalo Chaves)
- 62 121338403 **The decomposition of Scenedesmus by anaerobic digestion**
E. Xinyi, University of Kentucky, Department of biosystem and agricultural engineering, Lexington, KY (Xinyi E. Aubrey Shea, Czarena Crofcheck, Michael Montross, Mark Crocker, Rodney Andrews and Jennifer Aurandt)
- 63 121340975 **Characterization and analysis of two types of reused broiler litter**
Richard Gates, University of Illinois, Urbana, IL (Maria de F-tima Ara'jo Vieira, Ilda de F-tima Ferreira TinUco, Bernadete Miranda dos Santos, Cecília de F-tima Souza, Richard S. Gates, Luisa Lollí)
- 64 121341221 **Detection System for Concentration Quatization of Colloidal-gold Test Strips Based on Embedded and Image Technology**
Yongjun Zheng, China Agricultural University, Beijing, China (Zheng Yongjun, Kong Fangfang, Kang Feng, Yubin Lan, Wang Hanjie, Tan Yu)
- 65 121446715 **Effect of Soy white flakes, moisture content and temperature on physical properties of Nile tilapia feed**
Kasiviswanath Muthukumarappan, South Dakota State University, Brookings, SD (J. Khanal, K. Muthukumarappan, and A. Noomhorm)
- 66 121340654 **Air Impingement Drying Model of Chestnut**
Xiaoyu Tian, China Agricultural University, Beijing, China (Zheng Lou, Hong-Wei Xiao, Xiao-Yu Tian, Zhen-Jiang Gao)
- 67 121340810 **Study on Palatability Evaluation System of Pellet Feed**
Jie Yang, China Agricultural University/student, Beijing, China (Jie Yang, Hongying Wang, Bing Hu, GaoYang)
- 68 121337927 **Maximizing Algae Production Using Helical Coiled Photobioreactor**
Karunanithy Chinnadurai, South Dakota State University, Brookings, SD (M.Ramanathan, K. Muthukumarappan, C. Karunanithy)
- 69 121340704 **Fermentation Efficiency of Waste Soft Drinks for Ethanol Production**
Danielle Bellmer, Oklahoma State University, Stillwater, OK (Devanand Maski, Danielle D. Bellmer, Hasan Atiyeh)

Tuesday, July 31 - 2:30PM-5:30PM

SESSION 247

| Time | Paper # | Title/Authors |
|--------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | 121338315 | Introduction Production of biodiesel using Ca-MCM41 in a heterogeneous reaction Talal K. Ahmed, North Carolina Agricultural and Technical State University, Greensboro, NC (Talal Ahmed, Abolghasem Shahbazi and Lijun Wang) |
| 2:35PM | 121337913 | Automated Solid-Substrate Cultivation of the Anaerobic Thermophilic Bacterium Clostridium thermocellum Mathew Ruwaya, University of Kentucky, Lexington, KY (Mathew Ruwaya, Sue E Nokes, Michael D Flythe) |
| 2:50PM | 121337913 | Effect of metal head group in metal alkoxides catalysis transesterification Sandun Fernando, Texas A&M University, College Station, TX (Gayan I. Nawaratna, Sandun Fernando) |
| 3:05PM | 121338137 | Effect of different pretreatment technologies on cattails to bioethanol processes and economic analysis Bo Zhang, North Carolina A&T State University, Greensboro, NC (Bo Zhang and Abolghasem Shahbazi) |
| 3:20PM | 121336906 | Effect of casein micelles for enhancement of ethanol production and induction of cellulase activity Eckard D. Anahita, South Dakota State University, Brookings, SD (Anahita D Eckard; Kasiviswanathan Muthukumarappan; William Gibbons) |
| 3:35PM | 121336812 | Break Mass Transfer Analysis for Synthesis Gas Fermentation in CSTR Hasan K. Atiyeh, Oklahoma State University, Stillwater, OK (John R. Phillips, Hasan K. Atiyeh, Randy S. Lewis and Raymond L. Huhnke) |
| 3:50PM | 121337311 | In Vitro selection of High Starch Duckweed Growing Around Taihu Lake Basin Weihsia Cui, China University of Geosciences, Beijing, China |
| 4:00PM | 121340670 | Studies on the yield and properties of biodiesel from Jatropha curcas L. seeds Isaac N. Itodo, University, Makurdi, Nigeria (Isaac N. Itodo, Ambo M. Ezekiel and Samuel E. Obetta) |
| 4:15PM | 121340716 | Biowinol: Capturing wind energy and carbon dioxide for renewable fuel Xiaoguang Zhu, Oklahoma State University, Stillwater, OK (Xiaoguang Zhu, Dimple Kundiyan, Karthikeyan Ramachandriya, Kan Liu, Jennine Terrill, Ray Huhnke, Hasan Atiyeh, Mark Wilkins) |
| 4:30PM | 121340716 | |
| 4:45PM | 121337832 | |

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 248

| Time | Paper # | Title/Authors |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | 121338348 | Introduction Development of a Low-Cost Small Scale Sanitizer for In-Shell Pecans Paul R. Weckler, Oklahoma State University, Stillwater, OK (Weckler, P., Bowser, T., Kinder, J., Smith, M., Ma, L.) |
| 2:35PM | 121338178 | Ultrasonic Concentration of Microbial Pathogens using a Piezoceramic Discs and Semi-Continuous Flow Samuel J. Mullins, University of Kentucky, Lexington, KY (Sam Mullins; Fred Payne; Mary-Grace Danao) |
| 2:50PM | 121338178 | Concept of a stakeholder-driven whole-chain traceability system for agricultural products Vince P. Schielack, Oklahoma State University, Stillwater, OK (Vince Schielack III, Michael D. Buser, Brian Adam, Steven C. Ricke, Philip G. Crandall) |
| 3:05PM | 121338333 | Optimized Protocol for the Separation of Bacteria from Food Matrices Jennifer L. Frederick, University of Kentucky, Lexington, KY (Jennifer L. Frederick, Fred Payne, Stephen P. Walker, Czarena Crofcheck, Melissa Newman, Mike Montross) |
| 3:20PM | 121337458 | Break Application of Food Grade Compressed Air Standards in a Food Processing Facility Cale N. Boriack, McCormick and Company, Dallas, TX (Cale Boriack) |
| 3:35PM | 121336922 | Application of Ethanol Vapor for Reduction of Pathogens in Spices Stephen C. Nimitz, Virginia Tech, Blacksburg, VA (Stephen C. Nimitz, P. Kumar Mallikarjunan, Monica Ponder, Robert C. Williams, Gregory E. Welbaum) |
| 3:45PM | 121337649 | Characterization of bacterial load on whole raw ham samples Oliver Schuter, Leibniz Institute for Agricultural Engineering Potsdam-Bornim e.V., Potsdam, Germany (Julia Durek, Antje Fröhling, Marcel Erhard, Ines Streit, Janina Saskia Bolling, and Oliver Schlueter) |
| 4:00PM | 121337649 | |
| 4:15PM | 121340850 | |

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 249

| Time | Paper # | Title/Authors |
|--------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | 121337478 | Introduction Modeling in-bin rice drying using natural-air and controlled-air drying strategies Johnselvakumar Lawrence, University of Arkansas, Fayetteville, AR (J. Lawrence, T. Siebenmorgen, D. E. Maier) |
| 2:35PM | 121337478 | Modeling the equilibrium moisture content (EMC) of energy sorghum stalk and bagasse Mary-Grace C. Danao, University of Illinois at Urbana-Champaign, Urbana, IL (C. Godbolt, M.C. Danao, P. Brown, K.C. Ting, S.R. Eckhoff) |
| 2:50PM | 121336926 | |



Technical Sessions



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|--------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3:05PM | 121337886 | On-farm Drying of Sweet Potato Chips Michael D. Boyette, N C State University, Raleigh, NC (M.D. Boyette and Justin A. Macialek) |
| 3:20PM | | Break |
| 3:30PM | 121337936 | Quality changes in hermetic stored corn at intermediate moisture levels under subtropical conditions Klein E. Ileleji, Purdue University, Lafayette, IN (Nda-Agyima K. Addae-Mensah and Klein E. Ileleji) |
| 3:45PM | 121341115 | Modified Atmosphere Packaging of Apple (cv. Royal Delicious), Guava (cv. Baruipur) and Litchi (cv. Shahi) Tridib K. Goswami, IIT Kharagpur, Kharagpur, India (S. MANGARAJ, J. K.GOSWAMI) |

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 250

| | | |
|--------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time | Paper # | Title/Authors |
| 2:30PM | | Introduction |
| 2:35PM | 121340682 | Nitrogen and phosphorus availability following topsoil application of mineral and organomineral fertilisers Diogenes L. Antille, Cranfield University, Cranfield, United Kingdom (D.L.Antille, R. Sakrabani, R.J. Godwin) |
| 2:50PM | 121340837 | Effect of Chemical Conditioners on the Quality of the Poultry Litter Homer Savastano, Universidade Federal de Viçosa - UFV, Viçosa, Brazil (Cecilia de F-tima Souza; Cl-udia Ribeiro dos Santos, Keles Regina Antony Inoue, Ilda de F-tima Ferreira Tinúco, Marilí Santos Sousa) |
| 3:05PM | 121338434 | Phosphorus Accumulating Fungus and its Cultivation on Digested Manure Yulin Ye, Department of Bioproduct and Biosystem Engineering, University of Minnesota, Saint Paul, MN (Bo Hu, Department of Bioproduct and Biosystem Engineering, University of Minnesota) |
| 3:20PM | 121337864 | CLEAN-East (TM) Project: Performance of a Voluntary Approach to Environmental Protection at Livestock and Poultry Operations - Final Project Results Karen Schaffner, RTI International, Research Triangle Park, NC (M.E. Deerrhake, M. Rice, N. Ubaka-Blackmoore, A. Wesley-Snyder, K. Schaffner, P.R. Peterson, R. Neulicht, C. Mosley, J. Cajka, K. Everett) |

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 251

| | | |
|--------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time | Paper # | Title/Authors |
| 2:30PM | | Introduction |
| 2:35PM | 121336857 | Masters of Energy and Sustainability Brandon C. Harvey, University of Missouri, Columbia, MO (Curtis Langley, Brandon Harvey, Wayne Martens, Leon Schumacher) |
| 2:50PM | 121337632 | Teaching Tractor Roll-Over Stability Using Lego Mindstorms Ali B. Koc, University of Missouri, Columbia, MO (A.B. Koc, B. Liu, C. Langley) |
| 3:05PM | 121337900 | Introduction to Biosystems Engineering in the Era of the Bio-based Economy: Teaching Resources Development Mary Leigh Wolfe, Virginia Tech, Blacksburg, VA (M.L. Wolfe, P. Panagakis, T.Wynn Thompson, F. Gentile, G. Danao, A. Ramirez, C. O'Donnell, C. Whysong) |
| 3:20PM | 121341017 | Development of an International "Innovation and Entrepreneurship" Course for Biosystems Engineering Undergraduates Nicholas M. Holden, University College Dublin, Dublin 4, Ireland (F. Ayuga, N.M. Holden) |
| 3:35PM | | Break |
| 3:45PM | 121337817 | Living Porch Manuel R. Reyes, North Carolina A&T State Univ, Greensboro, NC (S. Creason, A. Sparks, A. Ojoamoo, S. Pittman, M. Reyes) |
| 4:00PM | 121340580 | Implementation of Egyptian Competitive Projects for Higher Education Enhancement: A Case Study Abdelwahab S. Kassem, Alexandria University, Alexandria, Egypt (G. A.-H. Abdellah, S. E.-D.M. Fahmy Taher, A.-W. Kassem) |
| 4:15PM | 121337353 | An approach to experiential learning in undergraduate education: A case study on a lifecycle assessment class Israel Dunmade, Mount Royal University, Calgary, Calgary, AB, Canada |
| 4:30PM | 121337109 | Using capstone projects to enhance student learning in a lower level course Deepak R. Keshwani, University of Nebraska-Lincoln, Lincoln, NE (Deepak R. Keshwani) |

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 252

| | | |
|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | AFRICA'S FOOD SECURITY: CHALLENGES AND OPPORTUNITIES - PANEL DISCUSSION - Sponsored by Intl |
| | | Moderator: Israel S Dunmade, Mount Royal University |
| | | LOCATION: RUBY |
| | | Target Audience: Funding agencies, policymakers, researchers, other stakeholders and the public that are interested in the food security and progress of Africa |
| | | Learning Objectives: Understanding of the trends in agricultural and food security in Africa and what the future direction should be |
| | | Benefits: 1. It would enable researchers, funding agencies, and policy makers with focus on Africa to know where to channel their resources appropriately. 2. It will also serve as a learning opportunity for those that would like to contribute to |

agricultural development and food security in Africa to know the state of development and areas of need.

Invited Speakers:

Prof K.C. Oni
Prof. G.A. Makanjuola
Dr. Michael Ngadi
Dr. Klein Ileleji

Tuesday, July 31 - 2:30PM-5:00PM

SESSION 253

ABET PEV REFRESHER WORKSHOP - Sponsored by ED-204

Moderator: Gary Clark, Kansas State University

LOCATION: MING

Target Audience: Current ASABE ABET Program Evaluators (PEV's)

Learning Objectives: This session is for current ABET program evaluators (PEV's) and evaluators in training. Updates and changes to the ABET criteria will be discussed along with best practices for PEV's.

Tuesday, July 31 - 2:30PM-5:30PM

SESSION 254

FOREST BASED BIOMASS: HARVESTING, PROCESSING, TRANSPORT AND STORAGE - Sponsored by T-12, T-11, FPE-709, SE-414, PM-23/7/2, BE-28

LOCATION: MANCHESTER

| | | |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time | Paper # | Title/Authors |
| 2:30PM | | Introduction |
| 2:35PM | 121337617 | A case study of combining forest management, sustainability, and bioenergy at Oak Ridge National Laboratory Kevin R. Caffrey, North Carolina State University, Raleigh, NC (Kevin Caffrey, Erin Webb, Matthew Langholtz, Elliott Barnett, M. Wesley Brummette, Mark Downing.) |
| 2:50PM | 121337193 | Properties of Southern Pine from DOE High Tonnage Forest Biomass Production Systems Oladiran O. Fasina, Auburn University, Auburn, AL (Shrestha, A. Sprinkle, J., Kadji, W., Brodbeck, C., Fasina, O., Corley, F., Taylor, S., and Rummer, B.) |
| 3:05PM | 121345164 | Design and Computational Fluid Dynamics Simulation of Quad-pass Rotary Drum Dryer for Biomass Drying Yang Gao, China Agricultural University/student, Beijing, China (Yang Gao, Decheng Wang, Jie Yang, Guanghui Wang, Zuoli Fu) |
| 3:20PM | 121337113 | Shear Processing of Wood Chips into Feedstock Particles David N. Lanning, Forest Concepts, LLC, Auburn, WA (D.N. Lanning, J.H. Dooley, C.J. Lanning) |
| 3:35PM | | Break |
| 3:45PM | 121337162 | Characteristic Differences between Eastern Red Cedar (<i>Juniperus virginiana</i>) Heartwood and Sapwood Elizabeth A. Miller, Oklahoma State University, Stillwater, OK (Elizabeth Miller, PE; Jim Dooley, PhD, PE; Michael Buser, Ph.D; Ajay Kumar, Ph.D; Ray Huhnke, Ph.D., P.E.) |
| 4:00PM | 121338303 | High Tonnage Harvest and Transport Systems for Southern Pine Energy Plantations Steven E. Taylor, Auburn University, Auburn, AL (S.E. Taylor, R.B. Rummer, F.W. Corley, G. Somerville) |
| 4:15PM | 121337464 | Evaluating Forest-Based Biomass Recovery in Plantation Pine Johnny M. Grace, USDA Forest Service, Forest Operations Research, Auburn, AL (J.M. Grace and D. Mitchell) |

Wednesday, August 1 - 9:30AM-12:00PM

SESSION 301

ADVANCES IN PESTICIDE APPLICATION AND DRIFT REDUCING TECHNOLOGIES - PART 1 - Sponsored by PM-23/6

Moderator: Harold W. Thistle, USDA Forest Service, Morgantown, WV

LOCATION: BATIK A

| | | |
|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time | Paper # | Title/Authors |
| 9:30AM | | Introduction |
| 9:35AM | 121337345 | An Evaluation of Spray Cloud Thermodynamics and Thoughts on Implementation in Applied Modeling Steven Edburg, USDA Forest Service, Morgantown, WV; Washington State University, Pullman, WA (Edburg, Lamb, Thistle) |
| 9:50AM | 121337887 | AGDISP as an Input Module for SCIPUFF Milton E. Teske, Continuum Dynamics, Inc., Ewing, NJ (M. Teske, H. Thistle, I. Sykes, R. Babarsky) |
| 9:50AM | 121341161 | Absorbance Experiments on Different Pesticide Formulations and Mixed Concentration Sensor Design Xianping Guan, Jiangsu University, Zhenjiang, China (GUAN Xianping, QIU Baijing, ZHANG Xiaodong, ZUO Zhiy, DONG Xiaoya) |
| 10:05AM | 121337826 | X-Ray Fluorimetry and its Potential Applications as a Quantitative Methodology in Pesticide Application Research Mark A. Ledebuhr, Application Insight, LLC, Lansing, MI (Ledebuhr, Mark and Hewitt, Andrew) |
| 10:20AM | | Break |
| 10:30AM | 121337825 | A Proposed National Agricultural Spray Technology Application Center (NAS-TAC) in the USA Mark A. Ledebuhr, Application Insight, LLC, Lansing, MI (Valcore, David and Ledebuhr, Mark) |
| 10:45AM | 121337317 | A System to Investigate 3-D Droplet Impact on Leaf Surfaces Heping Zhu, USDA-ARS ATRU, Wooster, OH (Xiang Dong, Heping Zhu, Xuejun Yang) |



Technical Sessions



11:00AM 121338149 **Impact of rate control system response characteristics on nozzle pressure stabilization during simulated field scenarios**
Ajay Sharda, Auburn University, Auburn, AL (Ajay Sharda, J. P. Fulton and T. P. McDonald)

Wednesday, August 1 - 9:30AM-12:15PM

SESSION 302

ORGANIC AND SPECIALTY CROP EQUIPMENT AND PRACTICES - Sponsored by PM-42

LOCATION: BATIK B

Title/Authors

Introduction

An electronic flow control system for a variable-rate tree sprayer

Heping Zhu, FAFE/Ohio State University, Wooster, OH (Hui Liu, Heping Zhu, Yu Chen, Yue Shen, Erdal Ozkan)

Development of a Thresher for Small Grain Cereal Crops

Sun-ok Chung, Dept. of Biosystems Machinery Engineering, Chungnam National University, Daejeon, Republic of Korea (Sun-ok Chung, Ki-Yuol Jung, Sin-Woo Kang, Sung-Chan Cho, Jun-Gul Park)

Innovative Systems for Weed Control in Small Scale Organic Production

John H. Wilhoit, University of Kentucky, Lexington, KY (John Wilhoit, Mark Williams, Tim Stombaugh)

Wednesday, August 1 - 9:30AM-12:15PM

SESSION 303

SENSORS AND CONTROLS FOR PRECISION AGRICULTURE - Sponsored by PM-54, IET-353

Moderator: Yufeng Ge, Texas A&M University, College Station, TX

LOCATION: DARDANELLES

Title/Authors

Introduction

A Wireless Multi-sensor Network Deployment Framework for Forest Fire Detection

Xiao Degin, South China Agricultural University, Guangzhou, China (Degin Xiao; Cuihua Ma; Yuming Hu)

Irrigation Control Methods for Wireless Sensor Networks

David Kohanbash, Carnegie Mellon University, Pittsburgh, PA (David Kohanbash, George Kantor, Abhinav Valada)

Fixed Frequencies Radio Wave Propagation and Attenuation in Corn Fields

Haixia Li, Oklahoma state University, Stillwater, OK (Haixia Li, Ning Wang)

WINTAC: A Wind tunnel Transition Assessment Chamber at the Biosystems and Agricultural Engineering Department at University of Kentucky

Igor M. Lopes, University of Kentucky, Lexington, KY (Igor M. Lopes, Fl-vio A. Damasceno, George B. Day, Michael Sama, Douglas G. Overhults)

Break

Hockley Index

Jason Griffith, NORAC Systems International, Saskatoon, SK, Canada (Jason Griffith, James Schneider, William Strelloff)

Evaluating GPS Guidance Technologies for Energy Savings

Donald K. Shannon, University of Missouri Extension, Columbia, MO (Charles E. Ellis)

Path Planning Algorithm for Korean Auto-guidance Tillage Tractor

Xiongzhe Han, Seoul National University, Seoul, Republic of Korea (Kim,Hak-Jin Moon,Hee-Chang Lee,Yoon-Taek)

Wednesday, August 1 - 9:30AM-12:15PM

SESSION 304

MODELING OF HYDROLOGIC AND NUTRIENT TRANSPORT - PART 2 - Sponsored by SW-21, SW-224

LOCATION: EDELWEISS

Title/Authors

Introduction

Curve Number Approaches for Estimating Drainage from Yard Waste Windrow Composting Pads

Ernest W. Tollner, Univ of Georgia, Athens, GA (E W Tollner, O.J. Duncan and Herbert Ssegane)

Impact of the numbers of observations and parameters on SWAT model calibration

Young gu Her, Purdue University, Agricultural and Biological Engineering Dept., West Lafayette, IN (Her. Y., and I. Chaubey)

Assessment of SWAT Model Uncertainty of Soil Parameters for Agricultural Dominated Systems Under Data-Poor Conditions

Javier M. Osorio Leyton, BSE at Virginia tech, Blacksburg, VA (Javier Osorio, Mary Leigh Wolfe, Conrad Heatwole, Darrell Bosch, Christopher Zobel)

Estimation of sediment and nutrients loads to bays from gaged and ungaged watersheds

Nina Omani, Texas A&M University, College Station, TX (N. Omani, R. Srinivasan, T. Lee)

Break

Parameterizing Simple Sediment Delivery Relationships using WEPP and SWAT

Harsh vardhan Singh, University of Wisconsin, Madison, WI (Harsh Vardhan Singh, Anita M. Thompson, John Panuska)

A Fully Integrated SWAT-MODFLOW Hydrologic Model

Jorge A. Guzman, Grazinglands Research Laboratory, USDA-ARS, El Reno, OK, El Reno, OK ()

Model Development & Application for Inland Navigational Canals

Rebecca Zeckoski, Zeckoski Engineering, Roanoke, VA (R.W. Zeckoski, D. Liang)

11:30AM 121338405 **Impacts of Soil Types and Particle Size on Spectral Characteristic of Loess Soil Suspended in Yellow River**
Zhuping Sheng, University of Connecticut, Storrs, CT; Texas A&M University, College Station, TX (Liqin Qu, Xiusheng Yang, Tingwu Lei)

Wednesday, August 1 - 9:30AM-12:15PM

SESSION 305

UNCERTAINTIES AND CHALLENGES IN HYDROLOGY AND WATER QUALITY MONITORING - Sponsored by SW-21

Moderator: Daren Harmel, USDA ARS, Temple, TX

LOCATION: INVERNESS

Title/Authors

Introduction

Collecting Edge-of-Field Runoff and Water Quality Data: Data Quality and Resource Considerations

Daren Harmel, USDA-ARS, Temple, TX (D. Harmel, K. King)

A methodology to reduce uncertainties in the high-flow portion of the rating curve for Goodwater Creek Watershed

Claire Baffaut, USDA-ARS-CSWQRU, Columbia, MO (Claire Baffaut and E. John Sadler)

Parameter estimation and uncertainty analysis of DWSM watershed model: A study in Jordan Creek watershed, Alaska

Debabrata Sahoo, Woolpert Inc, Columbia, SC (D. Sahoo and D. Borah)

Quantifying uncertainties in watershed nutrient loads: apportionment of each uncertainty source

François Birgand, NCSU, Raleigh, NC (Francois Birgand and Rafael Munoz-Carpena)

Integration of Web-based LDC and enhanced SWAT auto-calibration for appraisal of TMDL in South Korea with limited data

Hyunwoo Kang, Kangwon National University, Chuncheon, Republic of Korea (Jichul Ryu, Donghyuk Kum, Chun Hwa Jang, Won Hee Woo, Kyoung Jae Lim)

Break

Sources of Uncertainty and Errors in Estimating Water Balances of Low-Gradient Forested Watersheds in the Coastal Plain of North and South Carolina

Devendra Amatya, USDA Forest Service, Cordesville, SC (D.M. Amatya, S.Panda, T.M. Williams, R.W. Skaggs, P. Conrads, and C.C. Trettin)

Development of region-specific rating curve for the estimation of continuous water quality data from non-continuous sampling data

Bhasker Jha, North Carolina A&T State University, Greensboro, NC (Bhasker Jha and Manoj Kumar Jha)

6A spatially explicit, object-oriented watershed management tool (QnD-VFS) to engage stakeholders in targeted implementation of filter strips in the Yakima River Basin, WA

Miguel A. Campo, UNIVERSITY OF FLORIDA, Gainesville, FL (Oscar Pérez-Ovella, Gregory A. Kiker, Rafael Muñoz-Carpena, Jeffrey L. Ullman, Vicki A. McCracken)

Wetlands, oak forests and paramo ecosystems in the river basin of Rio Grande in Antioquia (Colombia) in a proposal for sustainable water management

Eugenia Gonzalez, National University of Colombia, Medellín, Colombia (Eugenia Gonzalez)

Wednesday, August 1 - 9:30AM-12:15PM

SESSION 306

REMOTE SENSING FOR CONSERVATION SYSTEMS - Sponsored by SW-225

Moderator: Sherry L. Hunt, USDA-ARS Hydraulic Engineering Research Unit, Stillwater, OK

LOCATION: FLEUR DE LIS A

Title/Authors

Introduction

Watershed-Scale Land-Use Mapping with Satellite Imagery

Anh T. Nguyen, University of Missouri, Columbia, MO (Anh T. Nguyen, Allen L. Thompson, Kenneth A. Sudduth)

Remotely sensed estimates of crop residue cover for standing and flat wheat stubble

Jonathan P. Aguilar, USDA-ARS NGPRL, Mandan, ND (Jonathan Aguilar, Robert Evans, Merle Vigil, and Craig Daughtry)

Application of Remote Sensing and Geographical Information System in Modeling and Mapping of Soil Moisture

Zhuping Sheng, University of Connecticut, Storrs, CT; Texas A&M University, College Station, TX (Zhao Xue, Xiusheng Yang)

Break

Relationship between vegetation indices and canopy chlorophyll in GPP estimation

Josicleda D. Galvincto, Federal University of Pernambuco, Recife, Brazil (Josicleda Domiciano Galvincto, , Bernardo Barbosa da Silva, Magna Soelma Beserra de Moura, Célia Cristina Clemente Machado, Hewerton Alves da Silva and Tiago Henrique de Oliveira)

Determination of water used in irrigated project of Brazil by orbital remote sensing

Bernardo B. Da Silva, Federal University of Pernambuco, Recife, Brazil (Bernardo Barbosa da Silva, Josicleda Domiciano Galvincto, Alexandra Chaves Braga, Célia Campos Braga, Leidjane Maria Maciel de Oliveira, e Suzana Maria Gico Lima Montenegro)

Gross primary production using related vegetation indices

Josicleda D. Galvincto, Embrapa Tropical Semiárida, Petrolina, PE, Brazil (M.S.B. Moura, J.D. Galvincto, B.B.Silva, C.C.C. Machado, H.A.Silva, T.H. Oliveira)



Technical Sessions



Wednesday, August 1 - 9:30AM-12:15PM

SESSION 307

| Time | Paper # | Title/Authors |
|---------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337502 | Evaluating Remote Sensing-based Crop Water Use Monitoring Methods Using Soil Moisture Sensors Jose L. Chavez, Colorado State University, Fort Collins, CO (Chavez, J.L., and Taghvaeian S.) |
| 9:50AM | 121336890 | Infiltration Model for Center Pivot Irrigation on Bare Soil Bradley A. King, USDA ARS NWISRL, Kimberly, ID (B.A. King and D.L. Bjorneberg) |
| 10:05AM | 121338323 | Update of CPED (Center Pivot Evaluation and Design) R. troy Peters, Washington State University, Prosser, WA (Kristine Stahl) |
| 10:20AM | 121341206 | Hydraulic calculation of light and small sprinkling unit using numerical simulation Xingye Zhu, Jiangsu University, Zhenjiang, China (Xingye Zhu; Shouqi Yuan; Junping Liu) |
| 10:35AM | 121336891 | Evaluation of Center Pivot Sprinkler Wind Drift and Evaporation Measurement Technique Bradley A. King, USDA ARS NWISRL, Kimberly, ID |
| 10:50AM | | Break |
| 11:00AM | 121338305 | Preplant Sprinkler Efficiency for a Lateral Move System Terry A. Howell, USDA-ARS, Bushland, TX (Terry A. Howell, Talel Stambouli, Steven R. Evelt, Judy A. Tolk, Karen S. Copeland) |
| 11:15AM | 121341121 | Optimization of Sprinkler Irrigation Machine Based on Genetic Algorithms Qin Tu, Jiangsu University, China, Zhenjiang, China (Xinkun Wang, Hong Li) |
| 11:30AM | 121340858 | Model to Design Drip Hose Lateral Line Using Two Spacings Between Emitters Rafael Ludwig, Sao Paulo State University - UNESP, Botucatu, Brazil (Ludwig, Rafael, Saad, Joao Carlos Curry) |
| 11:45AM | 121340860 | Models to Increase the Lateral Line Length of Drip Irrigation Systems Joao Carlos C. Saad, Sao Paulo State University - UNESP, Botucatu, Brazil (Saad, Joao Carlos Curry, Ludwig, Rafael) |

Wednesday, August 1 - 9:30AM-12:15PM

SESSION 308

| Time | Paper # | Title/Authors |
|---------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121336840 | Landscape-scale GPS-based videomapping of streambank erosion susceptibility Paul Ayers, University of Tennessee, Knoxville, TN (Paul Ayers and Brett Connell) |
| 9:50AM | 121337062 | Calibration and Testing of a Wireless Sediment Sensor Daniel Bigham, Kansas State University, Manhattan, AR (Dan Bigham, Naiqian Zhang) |
| 10:05AM | 121338150 | Predicting Erodibility of Cohesive Alluvial Soils following Streambank Modification Sharla B. Lovern, Oklahoma State University, Stillwater, OK (S.B. Lovern, G.A. Fox, R.B. Miller, A.T. Al-Madhhachi, D.M. Heeren) |
| 10:20AM | 121337101 | Developing Discharge-Frequency Relationships for Stream Geomorphology and Water Quality Applications in Ohio and Arkansas Dawn A. Farver, University of Arkansas, Fayetteville, AR (Farver, Dawn A., Andy Ward, Jon Witter, Jessica D'Ambrosio) |
| 10:35AM | | Break |
| 10:45AM | 121338344 | The Evolution of Two-Stage Agricultural Ditches in the United States Jessica D'Ambrosio, The Ohio State University, Columbus, OH (Andy Ward, Rebecca Kallio, Jessica DiAmbrosio, and Jon Witter) |
| 11:00AM | 121337237 | Streambank Piping and Internal Erosion as Failure Mechanisms of Streambanks: Field and Laboratory Experiments Taber Midgley, Oklahoma State University, Biosystems and Agricultural Engineering, Stillwater, OK; Aquaterra, Oklahoma City, OK (Taber L. Midgley, Rachel Felice, Garey A. Fox, Glenn V. Wilson) |
| 11:15AM | 121337176 | Targeting Streambank Restoration Implementation Sites at a Basin Scale Erin R. Daly, Oklahoma State University, Stillwater, OK (Dr. Dan Storm, Dr. Garey Fox, Dr. Eddy Langendoen, Dr. Andrew Simon, Alex Tobergte, Aaron Mittelstet, Abdul-Sahib Al-Madhhachi, Danny Kilmertz) |
| 11:30AM | 121337097 | Quantification and Heterogeneity of Infiltration and Transport in Alluvial Floodplains Derek M. Heeren, Oklahoma State University, Stillwater, OK (D.M. Heeren, G.A. Fox, D.E. Storm, P. Storm, D. Correll, B.E. Haggard, T. Hallihan, C.J. Penn, R.B. Miller) |

Wednesday, August 1 - 9:30AM-12:15PM

SESSION 309

| Time | Paper # | Title/Authors |
|--------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337483 | Simulating Potential Production Capacity of Corn and Potatoes in New England at Multiple Scales using a Geospatial Crop Model Jonathan P. Resop, USDA-ARS, Crop Systems and Global Change Lab, Beltsville, MD (Jonathan P. Resop, David H. Fleisher, Dennis Timlin, V. R. Reddy) |

| | | |
|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:50AM | 121336798 | GIS-Based Assessment of Winding Factor for Site Selection of Bioenergy Facilities Arifa Sultana, University of Alberta, Edmonton, AB, Canada (Arifa Sultana, Amit Kumar) |
| 10:05AM | 121337064 | Numerical Modeling Of Temperature Profiles During Continuous Flow Microwave Assisted Transesterification Process Dorin Boldor, Louisiana State University, Baton Rouge, LA (Pranjali Muley, Dorin Boldor) |
| 10:20AM | 121337598 | Estimating Crop Biophysical Properties from Remote Sensing Data by Inverting Linked Radiative Transfer and Crop Growth Simulation Models Kelly R. Thorp, USDA-ARS, Maricopa, AZ (Thorp, K.R., Wang, G., West, A.L., Moran, M.S., Bronson, K.F.) |
| 10:35AM | | Break |
| 10:45AM | 121337349 | Structure Based Computational Plant Cell Wall Model Virendra M. Puri, The Pennsylvania State University, University Park, PA (Hojae Yi, Shafayet M. Zamil and Virendra M. Puri) |
| 11:00AM | 121340776 | Packing house simulation to increase productivity of a green ornamentals' farm Gad Vitner, Ruppim Academic Center, Emek-hefer, Israel |
| 11:15AM | 121341205 | The Effect of Audible Sound on the Germination and Growth of Mung Bean Weiming Cai, Zhejiang University, Hangzhou, China (Weiming Cai, Huinong He, Peifeng Liu, Songming Zhu*) |

Wednesday, August 1 - 9:30AM-12:15PM

SESSION 310

| Time | Paper # | Title/Authors |
|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121340567 | Development of chicks handling system to enable automated Broiler feather sexing Amos Mizrach, ARO, the Volcani center, Bet Dagan, Israel (A. Mizrach, V. Alchanatis, N. Shamir, C. Shenderay, A. Weisblum, A. Levi, Y. Tao) |
| 9:50AM | 121338342 | Crop Yield Estimation in Apple Orchards Using Computer Vision Qi Wang, Carnegie Mellon University, Pittsburgh, PA (Qi Wang, Stephen Nuske, Marcel Bergerman, Sanjiv Singh) |
| 10:05AM | 121338433 | Blueberry fruit detection by Bayesian classifier based on visible to near-infrared multispectral images Ce Yang, University of Florida, Gainesville, FL (Ce Yang, Won Suk Lee) |
| 10:20AM | 121341108 | Measurement of growth information of a strawberry plant using a natural interaction device Satoshi Yamamoto, BRAIN, Saitama, Japan (Satoshi Yamamoto, Shieghiko Hayashi, Sadafumi Saito, Yoshiji Ochiai) |
| 10:35AM | | Break |
| 10:45AM | 121340678 | 3D Reconstruction of Chinese Hickory Trees for Mechanical Harvest Leiying He, Zhejiang Sci-Tech University, Hangzhou, China (Leiying He, Xiaoqiang Du, Gaohe Qiu, Chuanyu Wu) |
| 11:00AM | 121341237 | Acquisition of complete surface information of apples under on-line condition Bei Zhu, School of Biosystem Engineering & Food Science, Zhejiang University, Hangzhou, China (Bei Zhu Xiuqin Rao) |
| 11:15AM | 121340775 | Research on Description of Fruit Shape Based on Machine Vision Fujie Wang, College of Biosystem Engineering & Food Science, Zhejiang University, Hangzhou, China (Fujie Wang Xiuqin Rao Yibin Ying) |

Wednesday, August 1 - 9:30AM-12:00PM

SESSION 311

| Time | Paper # | Title/Authors |
|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121338239 | Factors influencing the dielectric properties of agricultural products and food materials Stuart O. Nelson, USDA, ARS, Athens, GA (Stuart O. Nelson and Samir Trabelsi) |
| 9:50AM | 121337850 | Dielectric Properties for Prediction of Moisture Content in Vidalia Onions Murat S. McKeown, The University of Georgia, Athens, GA (Murat Sean McKeown, Samir Trabelsi, Ernest William Tollner) |
| 10:05AM | 121338109 | Microwave Meter for Rapid and Nondestructive Determination of Peanut Kernel Moisture Content from Measurements on Unclean Pod Samples Samir Trabelsi, ARS-USDA, Athens, GA (Samir Trabelsi, Micah A. Lewis, and Stuart O. Nelson) |
| 10:20AM | | Break |
| 10:30AM | 121337870 | An Automated Approach to Peanut Drying with Real-Time Monitoring of In-Shell Kernel Moisture Content with a Microwave Sensor Samir Trabelsi, University of Georgia, Athens, GA (M.A. Lewis, S. Trabelsi, S.O. Nelson, E.W. Tollner, M.A. Haidekker) |
| 10:45AM | 121341135 | Onion quality assessment using a hyperspectral imaging system with a liquid crystal tunable filter Changying Li, University of Georgia, Tifton, GA (Haihua Wang, Changying Li, Maohua Wang) |



Technical Sessions



Wednesday, August 1 - 9:30AM-12:00PM

SESSION 312

MEASUREMENT AND MITIGATION OF GASEOUS POLLUTANTS FROM LIVESTOCK AND POULTRY - PART 4 - Sponsored by SE-305

Moderator: Catherine M. Nash, USDA-NRCS, Temple, TX

LOCATION: PERIDOT

| Time | Paper # | Title/Authors |
|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121338407 | Nitrogen mass balance to estimate ammonia emissions from California high-rise layer houses Ruihong Zhang, Biological and Agricultural Engineering, University of California-Davis, Davis, CA (Xing Jun Lin, Erin L. Cortus, Ruihong Zhang, Shumei Jiang and Albert J. Heber) |
| 9:50AM | 121337676 | Ammonia Emissions from Layer Facilities in Indiana and Ohio-A Critical Review Weizhen Liang, ABE Purdue University, West Lafayette, IN (Wei-zhen Liang, Albert J. Heber, Ji-Qin Ni) |
| 10:05AM | 121337941 | Ammonia emission from swine manure windrows: a case study of biomass reduction vs. potential nutrient loss Nanh Lovanh, USDA-ARS, Bowling Green, KY (Nanh Lovanh, John Loughrin, Kimberly Cook, Phil Silva, and Edwin Ritchey) |
| 10:20AM | 121338478 | Meta-Analysis of Greenhouse Gas Emissions from Land Application of Swine Manure Zifei Liu, Michigan State University, East Lansing, MI (Zifei Liu and Wendy Powers) |

Wednesday, August 1 - 9:30AM-12:00PM

SESSION 313

AIR QUALITY AS RELATED TO AGRICULTURAL WASTE MANAGEMENT - Sponsored by SE-305, SE-412

Moderator: Shafiqur Rahman, North Dakota State University

LOCATION: OBELISK A

| Time | Paper # | Title/Authors |
|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121341061 | Reconstruction of Old Gutter-Connected Dairy Barns: A Case Study M. Samer, Cairo University, Giza, Egypt |
| 9:50AM | 121338469 | Development of A Dispersion-based Setback Model for Determination of Odor Impact from Livestock Facilities Qiang Zhang, University of Manitoba, Winnipeg, MB, Canada (Zhu Gao, Qiang hang, Huiqing Guo, Amy La) |
| 10:05AM | 121336849 | Critical Analysis of Explosible Dust Testing Method by ASTM Standards Balaji Ganesan, Texas A&M University, College Station, TX (Dr. Calvin Parnell, Mr. Russell Mcgee and Balaji Ganesan) |
| 10:20AM | 121338091 | Highlights of the Air Quality Education in Animal Agriculture Project Ronald E. Sheffield, LSU Ag Center, Baton Rouge, LA (Stowell, R., J. Heemstra, D. Schulte, R. Sheffield, K. Janni, and E. Wheeler) |

Wednesday, August 1 - 9:30AM-12:00PM

SESSION 314

BULK AND BIOMASS LOADS AND STORAGE SYSTEMS - Sponsored by SE

LOCATION: OBERLISK B

| Time | Paper # | Title/Authors |
|--------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121338063 | Field Measurements for Stored Grains Packing Factors: Corn, Oats, and Soybeans Rumela Bhadra, Kansas State University, Manhattan, AR (Rumela Bhadra, Josephine M. Boac, Mark E. Casada, Sidney A. Thompson, Sam G. McNeil, Michael D. Montross, Ronaldo G. Maghirang) |
| 9:50AM | 121338199 | Describing Grain Packing: A New Mathematical Model Samuel G. McNeill, University of Kentucky, Princeton, KY (S. McNeill, M. Casada, S. Thompson, M. Montross, R. Bhadra, J. Boac, R. Maghirang) |

Wednesday, August 1 - 9:30AM-12:00PM

SESSION 315 AGRICULTURAL SAFETY AND HEALTH SURVEILLANCE - Sponsored by ESH

LOCATION: MONTE CARLO

| Time | Paper # | Title/Authors |
|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337414 | Assessment of Agricultural Safety and Health Curriculum Available to Post Secondary Students Jeffery T. Suchy, The Ohio State University, Columbus, OH (Jeffery T. Suchy and S. Dee Jepsen) |
| 9:50AM | 121406087 | Enhancement of a-and &#946;-galactosidase activity in Lactobacillus reuteri by metal ions Abolghasem Shahbazi, North Carolina A&T State University, Greensboro, NC (S.A. Hayek, D. Song, S.A. Ibrahim, M. Tajkarimi, A. Alazeh, A. Shahbazi) |
| 10:05AM | 121337881 | Hand Safety for Specialty Crop Production Workers - Frequencies of open wound hand injuries Michael L. Pate, Utah State University, Logan, UT (Michael L. Pate, Brian Nummer, and Subash Shrestha) |
| 10:20AM | | Break |
| 10:30AM | 121406101 | Health Status of US Farmers and Ranchers: Using NHANES (1999-2004) to Determine Disability and Chronic Incidence of Disease Cristina Miller, University of Illinois at Chicago, Chicago, IL |

10:45AM 121341188

On-site determination of Heavy Metal in soil using Electrochemical Stripping Analysis

Gang Liu, China Agricultural University, Beijing, China (Zhiqiang Wang, Gang Liu, Xiaojing Yang)

Wednesday, August 1 - 9:30AM-12:30PM

SESSION 316

ENERGY EFFICIENCY IN FOOD AND AGRICULTURAL PROCESSING - Sponsored by FPE-703

Moderator: ZHONGLI PAN, USDA-ARS-WRRC, Albany, CA

LOCATION: PLUM BLOSSOM A

| Time | Paper # | Title/Authors |
|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337410 | Energy Efficiency Data Comparing Twelve Wisconsin Grain Dryer Installations Jennifer Brinker, GDS Associates, Inc, Green Bay, WI (Energy Efficiency Data Comparing Twelve Wisconsin Grain Dryer Installations) |
| 9:50AM | 121338018 | Monitoring ag processing electrical energy use and efficiency Paul Funk, USDA-ARS, Mesilla Park, NM (P.A. Funk & R. G. Hardin IV) |
| 10:05AM | 121338332 | Sweet sorghum press concept - preliminary evaluation Vince P. Schielack, Oklahoma State University - Biosystems & Agricultural Engineering, Stillwater, OK (Vince P. Schielack III, Michael D. Buser, Danielle Bellmer, Ray Huhnke) |
| 10:20AM | 121340983 | Exergy Analysis applied to the design of grain dryers with air flow recirculation MauriPhD Fortes, Iatec - Instituto de Education Technologica, Belo Horizonte, Brazil (Rafael Pinheiro Amantea, Mauri Fortes, Gisele Tessari Santos) |
| 10:35AM | 121340984 | Optimization aspects of dryeration based on drying simulation analysis of a single corn kernel MauriPhD Fortes, Iatec - Instituto de Education Technologica, Belo Horizonte, Brazil (Gisele Tessari Sato, Mauri Fortes, Rafael Pinheiro Amantea, Wanyr Romero Ferreira) |
| 10:50AM | | Break |
| 11:00AM | 121340808 | Modeling and Analyzing of Energy Consumption in the Process of Extrusion for Tilapia Feed Jie Yang, China Agricultural University, Beijing, China (Lu Wang, Hongying Wang, Junguo Li, Bing Hu, Jie Yang, Wencheng Huang) |
| 11:15AM | 121345173 | Model Establishing and Analyzing of Energy Consumption in the Process of Aquaculture Feed Extrusion Jie Yang, China Agricultural University/student, Beijing, China (Jie Yang, Hongying Wang, Lixia Song, Erte Wei) |
| 11:30AM | 121340853 | Process and Energy Analysis of Cocoa Processing in Nigeria Simeon O. Jekayinfa, Ladoke Akintola University of Technology, Ogbomoso, Nigeria (Jekayinfa S.O, Adejumo BA, Ogunsakin IG) |
| 11:45AM | 121340852 | On - Farm Energetics of Mango Production in Nigeria Simeon O. Jekayinfa, Ladoke Akintola University of Technology, Ogbomoso, Nigeria (Jekayinfa S.O, Afolayan, S.O, Daramola, E. and Adebayo, A.O.) |

Wednesday, August 1 - 9:30AM-12:15PM

SESSION 317

PHYSICAL AND CHEMICAL PROPERTIES OF BIORESOURCE PRODUCTS AND COPRODUCTS - PART 1 (FPE-12A) - Sponsored by FPE-707, FPE-709, BE-28

LOCATION: PLUM BLOSSOM B

| Time | Paper # | Title/Authors |
|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337960 | Characterization and Compositional Analysis of Herbaceous Crops for Biofuel Production Natthiporn Aramrueang, University of California-Davis, Davis, CA (Natthiporn Aramrueang, Steve Zicari, Ruihong Zhang, Jim Tischer, Steve Kaffka) |
| 9:50AM | 121338462 | Chemical and elemental composition of big bluestem as affected by ecotype and planting location along the precipitation gradient of the Great Plains Ke Zhang, Kansas State University, Manhattan, AR (Ke Zhang, Loretta Johnson, Richard Nelson, Wengqiao Yuan, Zhijian. Pei and Donghai Wang) |
| 10:05AM | 121336976 | Effect of CDS level and drying method on protein quality and color of wheat distiller's dried grain with solubles Lope G. Tabil, University of Saskatchewan, Saskatoon, SK, Canada (Maria Rosario P. Mosqueda and Lope G. Tabil, Jr) |
| 10:20AM | 121337172 | Effect of Reaction Scale up on Properties of Epoxidization Canola Oil Ewumbua M. Monono, North Dakota State University, Fargo, ND (Ewumbua Monono, Darrin Haagenson, and Dennis Wiesenborn) |
| 10:35AM | 121337073 | Thermal Properties of Chinese Tallow Tree Seeds Dorin Boldor, Louisiana State University Agricultural Center, Baton Rouge, LA (Laura A. Picou, Dorin Boldor) |
| 10:50AM | | Break |
| 11:00AM | 121337586 | Moisture adsorption characteristics of control, AFEX and PAKed Switchgrass Kasiviswanathan Muthukumarappan, South Dakota State University, Brookings, SD (Yijing Wang, Kasiviswanathan Muthukumarappan, and Chinnadurai Karunanithy) |
| 11:15AM | 121337919 | Stress-Strain Behavior of Plant Cell Walls Under Direct Tensile Loading Virendra M. Puri, Pennsylvania State University, University Park, PA (M. Shafayet Zamil, M. Aman Haque, Hojae Yi, and Virendra M. Puri) |
| 11:30AM | 121340866 | Physico-chemical properties of the soursoop fruit (Annona muricata L. cv. Elita) in postharvest Carlos J. M-rquez Cardozo, National University of Colombia, Medellin, Colombia (Carlos Julio M-rquez Cardozo, JosE Regulo Cartagena) |
| 11:45AM | 121354684 | Effect of thermal pretreatment on mechanical properties of biomass Manunya Phanphanich, Idaho National Laboratory, Idaho Falls, ID (Manunya Phanphanich, Tyler Westover, Christopher T. Wright.) |
| 12:00PM | 121337397 | Studies on quality attributes of pellets made from high moisture corn stover Jaya Shankar Tumuluru, Idaho National Laboratory, Idaho Falls, ID (Jaya Shankar Tumuluru, Christopher T. Wright and Craig C. Conner) |



Technical Sessions



Wednesday, August 1 - 9:30AM-12:00PM

SESSION 318

BIOSENSORS AND BIO-INSTRUMENTATION -

Moderator(s): Lamin Kassama, Alabama A&M University, Normal, AL;
Jaya Sundaram, USDA-ARS, Athens, GA

LOCATION: CORAL

| Time | Paper # | Title/Authors |
|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337546 | Single-Pipetting Microfluidic Assay Device for Salmonella in Poultry Package Water Jeong-yeol Yoon, University of Arizona, Tucson, AZ (Christopher F. Fronczek, David J. You, Jeong-Yeol Yoon) |
| 9:50AM | 121337891 | Sensors for Predicting Caviar Maturity in Farmed Sturgeon Michael J. Delwiche, University of California, Davis, CA (Michael Delwiche, Serge Doroshov, Joel Van Eenennaam, Peter Struffenegger) |
| 10:05AM | 121337407 | Impedance aptasensor with microfluidic chips for rapid and specific detection of avian influenza H5 and H7 subtypes Jacob Lum, University of Arkansas, Fayetteville, AR (Jacob Lum, Ronghui Wang, Balaji Srinivasan, Billy Hargis, Steve Tung, Yanbin Li) |
| 10:20AM | | Break |
| 10:30AM | 121337548 | Extremely Rapid and Fully Reprogrammable Total PCR Assays Using Wire-Guided Droplet Microfluidics Jeong-yeol Yoon, University of Arizona, Tucson, AZ (David J. You, Phat L. Tran, Hyuck-Jin Kwon, Jeong-Yeol Yoon) |
| 10:45AM | 121338414 | Applications of Biosensors in the Internet of Things: A Review Yanbin Li, University of Arkansas, Fayetteville, AR (Yanbin Li and Maohua Wang) |

Wednesday, August 1 - 9:30AM-12:30PM

SESSION 319

PRODUCTION, PROCESSING AND CONVERSION OF ALGAE FOR BIOFUELS - PART 1 -

Moderator: Kasiviswanathan Muthukumarappan, South Dakota State Univ, Brookings, SD

LOCATION: EMERALD

| Time | Paper # | Title/Authors |
|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121336907 | Cultivation of Lipid-rich Microalgae Nannochloropsis salina in Anaerobic Digestion Effluent for Biofuel Production Ting Cai, Ohio State University, Wooster, OH (Ting Cai, Yebo Li) |
| 9:50AM | 121336895 | Cycling high intensity lights to maximize aerial biomass productivity of microalgal cultures Beatrice G. Terigar, Louisiana State University, Baton Rouge, LA (Beatrice G. Terigar and Chandra S. Theegala) |
| 10:05AM | 121338431 | Improvement of an optical density sensor for algae pond monitoring and process control Yao Yao, Texas A&M University, College Station, TX (Yao Yao, J. Alex Thomasson, Ruixiu Sui, Yufeng Ge) |
| 10:20AM | 121337261 | ARID Raceway Temperature Managment George Khawam, University of Arizona, Tucson, AZ (George Khawam, Peter Waller, Said Attalah, Randy Ryan) |
| 10:35AM | | Break |
| 10:45AM | 121337035 | Influence of media composition and flue gas components on the growth rate of Chlorella vulgaris and Scenedesmus to be utilized for CO2 mitigation Czarena Crofcheck, University of Kentucky, Lexington, KY (Czarena Crofcheck, Xinyi E, Aubrey Shea, Michael Montross, Mark Crocker, Rodney Andrews) |
| 11:00AM | 121337977 | Biomass and Flocculation Characteristics of Picochlorum oklahomensis and Nannochloropsis oculata Nurhan T. Dunford, Oklahoma State University, Stillwater, OK (Yan Zhu, Nurhan Turgut Dunford and Carla Goad) |
| 11:15AM | 121338384 | Investigations into flocculation of microalgae Wengqiao Yuan, North Carolina State University, Raleigh, NC (Yan Cui, Wengqiao Yuan, ZJ Pei) |
| 11:30AM | 121336893 | MAXIMIZING NET BIOMASS AND LIPID YIELDS FROM OUTDOOR, CONTINUOUS-FLOW MICROALGAL CULTURES Beatrice G. Terigar, Louisiana State University, Baton Rouge, LA (Beatrice G. Terigar and Chandra S. Theegala) |
| 11:45AM | 121336776 | Harvesting Nannochloris oculata and Nannochloropsis salina via electrolyte flocculation Andrea J. Garzon, Texas A&M University, College Station, TX (Andrea Garzon, Chance Carrick, Silvia Ramirez, and Zivko Nikolov) |

Wednesday, August 1 - 9:30AM-12:30PM

SESSION 320

PRODUCTION OF VALUE-ADDED CHEMICALS AND BIO-PRODUCTS FROM BIOMASS

Moderator: Sushil Adhikari, Auburn University, Auburn, AL

LOCATION: SAPPHIRE

| Time | Paper # | Title/Authors |
|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121337523 | A Coarse Techno-Economic Model of a combined Fermentation - Catalysis Route to Sorbic Acid Joshua T. Claypool, Iowa State University, Ames, IA (Joshua Claypool, D Raj Raman) |
| 9:50AM | 121337799 | Analysis of Gluconacetobacter xylinus exopolysaccharides Lin Fang, Penn State University, University Park, PA (Jeffrey M. Catchmark) |
| 10:05AM | 121337652 | Optimization of single cell oil production from oleaginous yeast using fed-batch fermentation Kyle V. Probst, Kansas State University Department of Grain Science, Manhattan, AR (Kyle V. Probst and Praveen V. Vadlani) |

10:20AM

10:30AM

121337532

Break

Characteristics of alcohol production from corn stover using a three-stage solid substrate cultivation process

Wanying Yao, University of Kentucky, Lexington, KY (Julia(Wanying) Yao, Sue Nokes, Michael Flythe)

10:45AM

121337568

Twin-screw Extrusion Processing of Vegetable-Based Protein Yellow Perch (Perca flavescens) Diet Containing Fermented High Protein Soybean Meal (PSG) and Graded Levels of Distillers Dried Grains with Solubles (DDGS)

Kasiviswanathan Muthukumarappan, South Dakota State University, Brookings, SD (Parisa Fallahi, Kurt A. Rosentrater, Kasiviswanathan Muthukumarappan)

11:00AM

121338087

Evaluation of Prebiotic Effect by In-Vitro Studies using Xylo-Oligosaccharides Produced from Corn Fiber

Radhakrishnan Srinivasan, Mississippi State University, Mississippi State, MS (Aditya Samala, Radhakrishnan Srinivasan, and John Brooks)

Wednesday, August 1 - 9:30AM-12:00PM

SESSION 321

MULTISPECTRAL AND HYPERSPECTRAL PROPERTIES OF AGRICULTURAL, BIOLOGICAL AND FOOD PRODUCTS - Sponsored by FPE-701

Moderator: Ching-lu Hsieh, National Pingtung University of Science and Technology, Pingtung, Taiwan

LOCATION: ROSETTA

| Time | Paper # | Title/Authors |
|---------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121338134 | Hyperspectral imaging for differentiating colonies of non-O157 Shiga Toxin-producing Escherichia coli (STEC) from background microflora on Rainbow agar Seung-chul Yoon, USDA, Agricultural Research Service, Athens, GA (S. C. Yoon, W. R. Windham, Scott Ladely, G. W. Heitschmidt, K. C. Lawrence, B. Park, Neelam Narang, and William C. Cray) |
| 9:50AM | 121340648 | Identification of Wholesome and Unwholesome Chicken Carcasses by Line Spectra of Hyperspectral Image Ching-lu Hsieh, National Pingtung University of Science and Technology, Pingtung, Taiwan (Ching-Lu Hsieh, Jau-Ting Wu, Chieh-Cheng Chang, Chun-Jung Chen) |
| 10:05AM | 121340824 | Classification of vegetable soybean based on hyperspectral images Min Huang, Jiangnan University, Wuxi, China |
| 10:20AM | | Break |
| 10:30AM | 121340826 | Detection of bruise and stem-end/calyx of apple using hyperspectral imaging and segmented principal component analysis Wenqian Huang, Beijing Institute of Technology, National Engineering Research Center of Intelligent Agriculture Equipment, Beijing, China (Wenqian Huang, Baihai Zhang, Jiangbo Li, Chi Zhang, Zhiming Guo, Liping Chen, Chunjiang Zhao) |
| 10:45AM | 121341179 | Non-destructive Detection of Water Content in Fresh Pork Based on Visual/Near-Infrared Spectrum Yankun Peng, China Agricultural University, Beijing, China (Haiyun Zhang, Yankun Peng, Wei Wang, Songwei Zhao, Sagar Dhakal) |

Wednesday, August 1 - 9:30AM-12:30PM

SESSION 322

LOW IMPACT DEVELOPMENT - Sponsored by BE-22

Moderator: Fouad H. Jaber, Texas A&M University, Dallas, TX

LOCATION: OPAL

| Time | Paper # | Title/Authors |
|---------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30AM | | Introduction |
| 9:35AM | 121336699 | Hydrologic Evaluation of Established Rain Gardens in Lincoln, Nebraska Andrew Anderson, University of Nebraska-Lincoln, Lincoln, NE (Andrew R. Anderson, Thomas G. Franti, David P. Shelton) |
| 9:50AM | 121337255 | Model Development for Bioretention Cells with Filter Media Heterogeneity Glenn O. Brown, Oklahoma State University, Stillwater, OK (R. D. Christianson, G. O. Brown, and R. A. Chavez) |
| 10:05AM | 121337833 | Retrofit bioretention cells: Water quantity and quality Jay Martin, The Ohio State University, Columbus, OH (Martin, J., Kosmerl, P., Eger, C., Schlea, D., Suter, S.) |
| 10:20AM | 121338113 | Construction and Evaluation of Permeable Pavements and Bioretention in North Central Texas Sandhya Mohan, Texas AgriLife Research and Extension, Dallas, TX (Sandhya Mohan and Fouad Jaber) |
| 10:35AM | 121337417 | An Update on Quantifying the First Flush in Rooftop Rainwater Harvesting Jessica J. Lay, Oklahoma State University, Stillwater, OK (Jessica Lay, Jason Vogel, Jason Belden, Glenn Brown) |
| 10:50AM | | Break |
| 11:00AM | 121336924 | A Comparison of Runoff Quality and Quantity from a Low Impact Hybrid Development and a Traditional Development Corinne E. Dumonceau, North Carolina State University, Raleigh, NC (Ryan J. Winston, William F. Hunt) |
| 11:15AM | 121337665 | Effectiveness of low impact development practices in two urbanized watersheds: Retrofitting with rain barrels/cisterns and porous pavements Bernard Engel, Purdue University, West Lafayette, IN |
| 11:30AM | 121338220 | Investigating the Carbon Footprint and Stormwater Reduction in the Central North Texas: Examining LID Design and Construction Influences Sa'd Shannak, Texas A&M University, College Station, TX (Sa'd Shannak and Fouad Jaber) |
| 11:45AM | 121340868 | An Environmentally Sound Technology for Coffee Washing Carlos E. Oliveros, CENICAFE, Chinchin-, Colombia (Carlos E. Oliveros, Juan R. Sanz, Cesar A. Ramirez) |



Technical Sessions



Wednesday, August 1 - 9:00AM-10:00AM

SESSION 323

ABET PROGRAM EVALUATOR (PEV) INTRODUCTION - Sponsored by ED-204

Moderator: Gary Clark, Kansas State University

LOCATION: MANCHESTER

Target Audience: Persons interested in becoming an ASABE ABET Program Evaluator (PEV)

Learning Objectives: This session is intended for persons who are interested in becoming an ABET program evaluator (PEV) whether employed in government, industry, or academia. An open discussion will be held to provide basic information on the ABET PEV process, expectations, and timelines.

Wednesday, August 1 - 10:00AM-11:00AM

SESSION 324

ABET PRACTICES FOR THE ACADEMIC COMMUNITY (10AM-11AM) - Sponsored by ED-204

Moderator: Gary Clark, Kansas State University

LOCATION: MANCHESTER

Target Audience: Department heads and departmental ABET program coordinators of ABET accredited programs

Learning Objectives: This session will focus on practices and experiences associated with ongoing assessment and preparation for ABET visits. Participants from various levels of assessment experience will be involved in group discussions.

Wednesday, August 1 - 9:30AM-12:00PM

SESSION 325

ENERGY MANAGEMENT IN AGRICULTURE - Sponsored by T-11

Moderator: TBA

LOCATION: RUBY

Title/Authors

Introduction

Analysis of Thermal Environment of Greenhouse in subtropical Area in Summer

Yanhua Liu, South China Agricultural University, Guangzhou, China (Liu Yanhua, Meng Qinglin)

Comparison of Water and Energy Management Strategies on Two Wisconsin Dairy Farms

Jennifer Brinker, GDS Associates, Inc, Green Bay, WI (Jennifer Brinker and Bethany Reinholz)

Estimation of Electricity Generation for a Solar-Tracking Photovoltaic System

Keun-soo Bae, Dept. of Biosystems Machinery Engineering, Chungnam National University, Daejeon, Republic of Korea (Keun-Soo Bae, Sun-Ok Chung, Jae-Woong Kong, Yun-Kun Huh, Jin-Yong Choi, Kyung-Hwa Han)

Break

The Energy Cost of Fertilizers as Fraction of the Total Input Energy for Crops in the United States

Sheila E. Amenumey, USGS/Univ of Minnesota, Minneapolis, MN (Sheila E. Amenumey and Paul D. Capel)

Using technology to serve agricultural producers with energy audits

David Deforge, EnSave, Inc., Richmond, VT (Gary Gawor, Leon Schumacher)

Challenges to Agricultural Energy Project Implementation

Robert Frazier, Oklahoma State University, Stillwater, OK (RS Frazier)

Wednesday, August 1 - 9:30AM-12:00PM

SESSION 326

ECOSYSTEM RESPONSES AND SUSTAINABILITY AS RELATED TO BIOENERGY - INVITED PRESENTATIONS - Sponsored by T-11, SW-21, SW-36

Moderator(s): Margaret Gitau, Claire Baffaut

LOCATION: MING

This session covers ecosystem services including but not limited to food production, water quality, soil quality, aquatic and terrestrial wildlife habitat, flow regulation and economic sustainability that may be affected by bioenergy production in the landscape.

Wednesday, August 1 - 2:30PM-5:15PM

SESSION 327

ADVANCES IN PESTICIDE APPLICATION AND DRIFT REDUCING TECHNOLOGIES - PART 2 - Sponsored by PM-23/6, PM-54

LOCATION: BATIK A

Title/Authors

Introduction

Potential Spray Volume Reduction from Variable Rate Sprayers in Orchard and Nursery Applications

Yu Chen, The Ohio State University, Wooster, OH (Yu Chen, Erdal Ozkan, Heping Zhu, Peter Ling)

Putting the spray onto the target - the development and demonstration of vertical patternators for fruit growers

Andrew J. Landers, Cornell University, Geneva, NY (Andrew Landers Emilio Gil Paolo Balsari)

Air velocity distributions from air-assisted five-port sprayer

Heping Zhu, USDA-ARS ATRU, Wooster, OH (Jiabing Gu, Heping Zhu, Weimin Ding)

Break

3:30PM 121341103

Research of prevention of pine caterpillars applying aerial electrostatic spraying technology

Hongping Zhou, Nanjing forestry university, Nanjing, China (Yu Ru Hongping Zhou Jiaqiang Zheng Chaoran Shu)

3:45PM 121411689

Design and Experiment of a Pipeline Tension Detection for Aero-Pipeline Spraying System in Paddy Field

Zhiyan Zhou, South China Agricultural University, Guangzhou, China (Z. Zhou, J. Miao, W. Yuan, X. Luo)

Wednesday, August 1 - 2:30PM-5:00PM

SESSION 328

ADVANCES IN TRACTIVE AND TRANSPORT EFFICIENCY - Sponsored by PM-46, PM-45, PM-43, PM-42, PM-48

Moderator: Thomas R. Way, USDA-ARS NSDL, Auburn, AL

LOCATION: BATIK B

Title/Authors

Introduction

The effect of soil moisture deficit on the susceptibility of soil to compaction as a result of vehicle traffic

Sara E. Vero, University College Dublin/Teagasc, Wexford, Ireland (S.E. Vero, D.L. Antille, S.T.J. Lalor and N.M. Holden)

The use of explicit finite element formulation to predict agricultural tire performance during travel over loose soil

Itzhak Shmulevich, Technion - Israel Institute of Technology, Haifa, Israel (Dror Rubinstein, Itzhak Shmulevich, Yaron Franco, Yuval Hikind and Nicolay Frenckel)

Soil cone index distribution beneath tractor drive tires of two aspect ratios

Thomas R. Way, USDA-ARS NSDL, Auburn, AL (Thomas R. Way, Tadashi Kishimoto, Ahmet Celik)

FFT Analysis of Load Data during Field Operations using a 71-kW Agricultural Tractor

Myong-jin Ryu, Dept. of Biosystems Machinery Engineering, Chungnam National University, Daejeon, Republic of Korea (Myong-Jin Ryu, Sun-Ok Chung, Yong-Joo Kim, Dae-Hyun Lee, Chang-Hyun Choi, Kyung-Hwan Lee)

Wednesday, August 1 - 2:30PM-5:00PM

SESSION 329

PRECISION AERIAL APPLICATIONS - Sponsored by PM-54

Moderator: Yubin Lan, USDA ARS, College station, TX

LOCATION: DARDANELLES

Title/Authors

Introduction

Unmanned Aerial Vehicles for Agriculture

Yanbo Huang, USDA ARS, Stoneville, MS (Yanbo Huang, W. Clint Hoffman, Yubin Lan, Steven J. Thomson, Bradley K. Fritz)

Development of an Unmanned Agricultural Robotics System for measuring crop conditions for Precision Aerial Application

Yubin Lan, PVAMU, Prairie View, TX (Wang, Y., Lan, Y., Lian, J., Risch, E., Lacey, R.)

Precision Aerial Application for site-specific crop management - Past, Current and Future

Yubin Lan, USDA ARS, College Station, TX (Lan, Y., Hoffmann, W., Marin, D.)

Using airborne multispectral imagery to map cotton root rot progression within and across growing seasons

Chenghai Yang, USDA-ARS, Weslaco, TX (Chenghai Yang, G. N. Odvody, C. J. Fernandez, J. A. Landivar, and R. L. Nichols)

Leaf Area Index Mapping of Wheat Using Remote Sensing Data

Mimi Roy, Texas AgriLife Research, Vernon, TX (Nithya Rajan, Parmodh Sharma)

Break

Model development for monitoring soil moisture using remote sensing

Zhitao Zhang, NWAFF/USDA ARS, College Station, TX (Zhang, Z., Lan, Y., Chen, J., Li, Y.)

Implementation of multi-rotor remote sensing system for stress detection in citrus

Sindhujha Sankaran, Citrus Research and Education Center, University of Florida, Lake Alfred, FL (Reza Ehsani, Sindhujha Sankaran, Joe Mari Maja, Joao Camargo Neto)

Prescription Maps for Precision Aerial Application

Peng Song, USDA ARS, College Station, TX (Lan, Y., Song, P.)

Multi-objective Optimization of Crop Planting Structure in Irrigation Area Based on Remote Sensing Technology

Zhitao Zhang, NWAFFU, Yangling, China (Zhang, Z., Lan, Y., Chen, J., Liu, J.)

Wednesday, August 1 - 2:30PM-5:15PM

SESSION 330

ROLE OF FOREST AND WETLAND HYDROLOGY IN AGRICULTURAL LANDS - Sponsored by SW-21, T-12, SW-23

Moderator: Devendra Amatya, USDA-FS, Cordesville, SC

LOCATION: EDELWEISS

Title/Authors

Introduction

Diurnal evapotranspiration impacts on streamflow in a riparian buffer system

David D. Bosch, USDA-ARS, Tifton, GA (David D. Bosch, Laura K. Marshall, and Peter M. Allen)

Testing a Hydrologic Hypothesis using a Paired Watershed Approach Before and After Reversal of Control and Treatment Watersheds on a Drained Pine Forest

Herbert Ssegane, UGA/USDA-FS, Cordesville, SC (Ssegane, H., D.M. Amatya, R.W. Skaggs, J.E. Nettles, G.M. Chescheir, and E.W. Tollner)



Technical Sessions



| | | |
|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3:05PM | 121338410 | Metals Removal Comparison of Grass Strip and Grass Swale Jingyi Zhang, Texas A&M University - Kingsville, Kingsville, China (Jingyi Zhang, Runbin Duan, She Chen and Xubin Pan*) |
| 3:20PM | 121337045 | Runoff Generation from Shallow Water Table Southeastern Forests: Unusual Behavior of Paired Watersheds Following a Major Disturbance Devendra Amatya, USDA Forest Service, Cordesville, SC (T.M. Williams, D.M. Amatya, A. Jayakaran, B. Song, C. Trettin, and K. Krauss) |
| 3:35PM | | Break |
| 3:45PM | 121338234 | Global sensitivity analysis of the integrated forest ecosystem model, DRAIN-MOD-FOREST Shiyang Tian, North carolina State University, Raleigh, NC (S. Tian, M. A. Youssef, D.M. Amatya, E.D., Vance) |
| 4:00PM | 121337043 | Remote Estimation of Pine Forest Hydrologic Parameters with Advanced Geospatial Technology Kyle P. Dalton, University of Georgia, Athens, GA (Dalton, Kyle P., Panda, S.S., Amatya, D., Jackson, R., Chescheir, G., J. Nettles) |
| 4:15PM | 121338203 | Differentiating hydrophytes in non-coastal wetlands using hydrologic soil groups, LiDAR based topographic map, and OBIA based image segmentation Sudhanshu S. Panda, Institute of Environmental Spatial Analysis, Oakwood, GA (J. Fitzgerald and Panda, S.S.) |

Wednesday, August 1 - 2:30PM-5:20PM

SESSION 331

| Time | Paper # | Title/Authors |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121338037 | Identification of ephemeral gully locations and length using topographic and physically based models Prasad Daggupati, Kansas State University, Manhattan, KS (Prasad Daggupati, Kyle Douglas-Mankin, Aleksey Sheshukov, Phil Barnes) |
| 2:50PM | 121337238 | Deriving Parameters of a Fundamental Detachment Model for Cohesive Soils from Jet Erosion Tests Abdulsahib Al-Madhhachi, Oklahoma State University, Stillwater, OK (A.T. Al-Madhhachi, G.J. Hanson, G.A. Fox, A.K. Tyagi, and R. Bulut) |
| 3:05PM | 121338085 | Internal Erosion Experiments in Homogenous Embankments and Initial Computational Model Developments Ronald D. Tejral, USDA Agricultural Research Service, Stillwater, OK (Ronald D. Tejral, Gregory J. Hanson, Darrel M. Temple, Sherry L. Hunt) |
| 3:20PM | 121337150 | Erosion Prediction in Harvested Pine Stands in Central and Lower Alabama Emily A. Carter, U.S. Forest Service, Auburn, AL (E.A. Carter, J.M. Grace III, J.P. Fulton) |
| 3:35PM | | Break |
| 3:45PM | 121336859 | USLE "C" Values for Louisiana Sugarcane Richard L. Bengtson, Louisiana State University, Baton Rouge (Richard L. Bengtson and H. Magdi Selim) |
| 4:00PM | 121340848 | Development and Application of SATEEC R Module using Daily Rainfall Data Chun hwa Jang, Kangwon National University, Chuncheon, Republic of Korea (Jichul Ryu, Donghyuk Kum, Hyunwoo Kang, Youngsug Kim, Kyoung Jae Lim) |
| 4:15PM | 121341029 | Design and installation of runoff-sediment cascade monitoring stations at parallel Qiaozi-East and Qiaozi-West watersheds Yuequn Dong, China Agricultural University, Beijing, China; China Agricultural University, Beijing, China (Cuiping Yuan, Qinghong Yan, Yuequn Dong) |

Wednesday, August 1 - 2:30PM-5:15PM

SESSION 332

| Time | Paper # | Title/Authors |
|--------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121337242 | Effect of surface inlet type on suspended sediment transported through a sub-surface drain tile system Gary W. Feyereisen, USDA-ARS-SWMRU, St. Paul, MN (Gary W. Feyereisen, Sharon K. Papiernik, Erik S. Krueger, John M. Baker, and Christopher D. Wente) |
| 2:50PM | 121336986 | Effects of Compost Addition on Soil Phosphorus and Nitrate Losses in Tile Drainage Water under Long-term Conventional Tillage and No-tillage Chin sheng Tan, Agriculture & Agri-Food Canada, Harrow, ON, Canada (T. Q. Zhang, C. S. Tan, B. L. Ma, and H. Y. F. Ng) |
| 3:05PM | 121337806 | Phosphorus Movement in Soils following Application of Polyacrylamide Coated Biosolid Damodhara R. Mailapalli, University of Wisconsin-Madison, Madison, WI (Damodhara R. Mailapalli, Anita M. Thompson and Alcardo Roa) |
| 3:20PM | 121337271 | Demonstration and implementation of denitrifying bioreactors and phosphorus filters in Ohio Ehsan Ghane, Ohio State University, Columbus, OH (Ehsan Ghane, Larry C. Brown, Norman R. Fausey, Aleksandra Drizo, Kevin W. King, Richard A. Cooke) |
| 3:35PM | 121336985 | The effect of water table management on water quality under sandy loam and clay loam soils at the farm scale Chin sheng Tan, Agriculture & Agri-Food Canada, Harrow, ON, Canada (C. S. Tan, H. Y. F. Ng and T. Q. Zhang) |
| 3:50PM | | Break |
| 4:00PM | 121338231 | Increasing the salinity tolerance of alfalfa to improve the effectiveness of agronomic-hydrologic practices for controlling root-zone salinization Harold Steppuhn, Semiarid Prairie Agricultural Research Centre, Agriculture and Agri-Food Canada, Swift Current, SK, Canada (H. Steppuhn, A.D. Iwaasa, J. Holzer, D.W. Johnson, and M. Ulmer) |

| | | |
|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4:15PM | 121340997 | Mole Drainage for Improving Salty Clay Shallow Saline Watertable, Egypt Mohamed M. Moukhtar, Land Drainage Res. Dept.; Soil, Water & Env. Res. Inst., Agric. Res. Centre, El- Giza, Egypt (Mohamed M. Moukhtar, Madiha H. El-Hakim1 and Mohamed A. B. El-Sheikh) |
| 4:30PM | 121340963 | Soil Reclamation and Drainage with Evaporation Drainage Method Amjed Abo-Izreik, Al-Zaytoonah University of Jordan, Amman, Jordan (Amjed Abo-Izreik, Majed Abu-Zreig) |
| 4:45PM | 121341043 | Experiences from Sub-Surface Drainage Technology Pilot Areas of Andhra Pradesh, India Srinivasulu Ale, Acharya N G Ranga Agricultural University, Bapatla, India; Texas AgrLife Research & Extension Center, Vernon, TX (Raghu Babu Movva, Satyanarayana V. Tammineedi, Yella R. Kaluvai, Srinivasulu Ale) |

Wednesday, August 1 - 2:30PM-5:00PM

SESSION 333

| Time | Paper # | Title/Authors |
|--------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121337451 | Decision Process for the Application of Variable Rate Irrigation Jacob L. Larue, Valmont Irrigation, Omaha, NE (Jacob L. LaRue, Cole Fredrick) |
| 2:50PM | 121337051 | Impact of Nitrogen and Water Management on Actual Crop Evapotranspiration and Crop Water Productivity of Maize in South Central Nebraska Daran R. Rudnick, University of Nebraska, Lincoln, NE (Daran Rudnick, Suat Irmak, Richard Ferguson) |
| 3:05PM | 121336824 | Matching Application to the Varying Speed and Geometry of Center Pivot Swing Arm Corner Systems Andrew K. Smith, Reinke Irrigation, Boyne City, MI (Andrew K. Smith) |
| 3:20PM | 121337764 | Spatial redistribution of irrigation and rainfall water by crop canopies and the implications on placement of soil moisture based sensors for effective irrigation scheduling Lameck O. Odhiambo, University of Nebraska-Lincoln, Lincoln, NE (L.O. Odhiambo and S. Irmak) |
| 3:35PM | 121337892 | Wireless sensor network for precision irrigation control in horticultural crops Michael Delwiche, University of California, Davis, CA (Robert Coates, Michael Delwiche, Alan Broad, Mark Holler, Richard Evans, Lorence Oki, Linda Dodge) |
| 3:50PM | | Break |
| 4:00PM | 121341219 | Design of Automatic Control System for Greenhouse Fertigation Zhiyu Zuo, Jiangsu University, Zhenjiang, China (Zhiyu Zuo, Hanping Mao, Xiaodong Zhang, Wenyue Huang, Xianping Guan, Yunhui Hu) |
| 4:15PM | 121340879 | Autonomous irrigation controller for Korean greenhouse plants Won-kyung Kim, Seoul National University, Seoul, Republic of Korea (Won-Kyung Kim, Hak-Jin Kim, Dong-Hoon Lee, Jin-Young Choi, Sun-Ok Chung, Sang-Ho Jeon) |
| 4:30PM | 121340920 | Comparative research on hydraulic performance of sprinkler heads in sprinkler irrigation Junping Liu, Jiangsu University, Zhengjiang, China (Liu Junping, Yuan Shouqi, Li Hong, Zhu Xingye) |
| 4:45PM | 121340962 | Water Seepage Rate from Clay Emitters Majed M. Abu-zreig, Jordan University of Science and Technology, Irbid, Jordan (Majed Abu-Zreig, Amjed Abo-Izreik, Mohamed Abd Elbasit) |

Wednesday, August 1 - 2:30PM-5:00PM

SESSION 334

| Time | Paper # | Title/Authors |
|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM | | Introduction |
| 2:35PM | 121338158 | Air Entrainment in Stepped Spillways Sherry L. Hunt, USDA-ARS Hydraulic Engineering Research Unit, Stillwater, OK (Sherry L. Hunt, Kem C. Kadavy, and Gregory J. Hanson) |
| 2:50PM | 121338162 | Clear Water Flow Depth Relationships for Stepped Spillways Sherry L. Hunt, USDA-ARS Hydraulic Engineering Research Unit, Stillwater, OK (Sherry L. Hunt, Kem C. Kadavy, and Gregory J. Hanson) |
| 3:05PM | 121337613 | The Decommissioning of Cottonwood Creek, Site 15 Kevin R. Cook, USDA-NRCS, Stillwater, OK (Kevin R. Cook, Heath A. Sand, Robert W. Toole) |
| 3:20PM | 121354857 | DamWatch - A Web-Based System to Monitor Watershed Dams in Oklahoma Larry Caldwell, USDA-Natural Resources Conservation Service, Stillwater, OK (Larry W. Caldwell and Joe Scannell) |
| 3:35PM | | Break |
| 3:45PM | 121337324 | Impacts of Reservoir Operation in the SWAT Model Calibration Hakkwan Kim, Mississippi State University, Starkville, MS (Hakkwan Kim and Prem B. Parajuli) |
| 4:00PM | 121337608 | Using Rock in Stream Restoration Projects Kerry M. Robinson, USDA-NRCS-ENTSC, Greensboro, NC (Kerry M. Robinson) |



Technical Sessions



Wednesday, August 1 - 2:30PM-5:00PM SESSION 335

| Time | Paper # | Title/Authors |
|------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM 2:35PM | 121337399 | Introduction Impacts of climate variability on Soybean and Corn yields in Mississippi Delta Priyantha L. Jayakody, Mississippi state university, Starkville, MS (Priyantha Jayakody, Dr Prem B. Parajuli and Dr. Gretchen Sassenrath) |
| 2:50PM | 121338335 | Quantification and Mapping irrigated and rainfed maize and soybean water productivity across all Nebraska counties Vivek Sharma, UNL, Lincoln, NE (Vivek Sharma and Suat Irmak) |
| 3:05PM | 121337002 | Climate-Based Forecasts of Monthly and Seasonal Precipitation and Temperature in Florida, USA Christopher J. Martinez, University of Florida, Gainesville, FL |
| 3:20PM | 121338291 | Climate variability-based Stream Flow Forecasting Using Adoptive Neuro Fuzzy Inference System (ANFIS) Suresh Sharma, Auburn University, Auburn, AL (Suresh Sharma, Puneet Srivastava, Xing Yuan, Latif Kalin) |
| 3:35PM 3:45PM | 121336704 | Break Hydrologic importance of spatial variability in statistically downscaled precipitation predictions from general circulation models for west-central Florida Syewoon Hwang, University of Florida, Gainesville, FL (Syewoon Hwang, Wendy D. Graham, Jeffrey S. Geurink, Alison Adams) |
| 4:00PM | 121340955 | Hydrologic Safety Assessment of Agricultural Reservoirs under Climate Change Scenarios JiHyee Kim, Seoul National University, Seoul, Republic of Korea (Kim, JiHyee, M.S. Kang, I.H. Song) |
| 4:15PM | 121340978 | Monitoring of Atmospheric Carbon Monoxide fluxes in Predicting the Commencement of Planting Season in West Africa Lola M. Akinyemi, Covenant University, Ota, Nigeria (Akinyemi Marvel Lola) |

Wednesday, August 1 - 2:30PM-5:00PM SESSION 336

| Time | Paper # | Title/Authors |
|------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM 2:35PM | 121341005 | Introduction Analysis of Effects of Grain Dust Explosion Using Computational Fluid Dynamics Francisco Carlos Gomes, Federal University of Lavras, Lavras, Brazil (Silva, J.A.; Gomes, F.C.; Cprea, J.L.G., Magalhães, E.S.L.) |
| 2:35PM | 121341202 | An adaptive error control model for farmland sensor networks Xiao Deqin, South China Agricultural University, Guangzhou, China (Quan Zhou; Jiu hao Li; Deqin Xiao) |
| 2:50PM | 121341023 | A Preliminary Study on the Soil Heavy Metals of Spatial Variability and Sampling Model in Field Scale Gang Liu, China Agricultural University, Beijing, China (Shengwei Wang, Juan Feng, Gang Liu, Mei Yong) |
| 3:05PM | 121340553 | Cost effective development of a mobile conveying melon harvesting robot Itzhak Shmulevich, Technion - Israel Institute of Technology, Haifa, Israel (Moshe Mann, Dror Rubinstein, Itzhak Shmulevich and Boaz Zion) |
| 3:20PM 3:30PM | 121341162 | Break Mechanical Admittance Measurement and Analysis of Chinese Hickory Trees under Impact Excitations Shaozhong Chen, Zhejiang Sci-Tech University, Hangzhou, China (Shaozhong Chen, Xiaoqiang Du, Chuanyu Wu, Yun Zhao) |
| 3:45PM | 121392871 | Moisture on-line prediction system of dryer based on neural networks Jie Yang, China Agricultural University, Beijing, China (Jie Yang, Hongying Wang, Erte Wei, Lixia Song) |

Wednesday, August 1 - 2:30PM-5:00PM SESSION 337

| Time | Paper # | Title/Authors |
|--------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:35PM | 121337106 | Autonomous robot for small-scale NFT systems David Kohanbash, Field Robotics Center, Robotics Institute, Carnegie Mellon University, Pittsburgh, PA (Dhruv Agrawal, G. A. Long, Niels Tanke, George Kantor) |
| 2:50PM | 121340958 | A Real-Time Stereo Vision System for Obstacle Detection and Recognition Ta-te Lin, Dept. of Bio-Industrial Mechatronics Engineering, National Taiwan University, Taipei, Taiwan (Ta-te Lin, An-Chih Tsai, Kai-Chiang Chuang, Yu-Chou Chen, Yu-Sung Chen) |
| 3:05PM | 121341099 | Variable Target Spraying Design for Cotton Weed Based on Fuzzy Control Chen Shuren, Jiangsu University, Zhen Jiang, China (Shuren Chen; Dongfu Yin; Hongyang Han; Wen Yue Huang; Jian Duan) |
| 3:20PM | | Break |

| | | |
|--------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3:30PM | 121341025 | A Novel 3D Laser Vision system for Robotic Apple Harvesting Gang Liu, China agricultural university, Beijing, China (Juan Feng; Shengwei Wang; Gang Liu; Wen Ren) |
| 3:45PM | 121340757 | A controlling method for a U-turn mode of a automated rice transplanter Fangming Zhang, Ningbo Institute of Technology, Zhejiang University, Ningbo, China (Ximing Feng, Yuan Li) |
| 4:00PM | 121340646 | Research Review on the Navigation of Agricultural Mobile Robot Yu Chen, South China Agricultural University, Guangzhou, China (Yu Chen, Tiemin Zhang, Xiaodong Peng) |

Wednesday, August 1 - 2:30PM-5:00PM SESSION 338

| Time | Paper # | Title/Authors |
|------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM 2:35PM | 121336825 | Introduction Determination of Emission Factors for Steam Flaking of Corn at a Commercial Animal Feedmill Anissa M. Purswell, Enviro-Ag Engineering, Inc., Amarillo, TX (A. Purswell, B. Faulkner, C. Spencer) |
| 2:50PM | 121337636 | Particulate matter emission estimates for a commercial dairy in California, USA Kori D. Moore, Energy Dynamics Laboratory, North Logan, UT (Kori Moore, Christian Marchant, Randal Martin, Michael Wojcik, Richard Pfeiffer, John Prueger, Jerry Hatfield) |
| 3:05PM | 121337468 | Analysis of Particulate Matter Concentrations Measured at a Layer House Using AERMOD Jnana Bairy, Texas A&M University, College Station, TX (Jnana Bairy Calvin B Parnell Jr. Russell McGee) |
| 3:20PM | 121338334 | Growth promoters, wind, and human/ecological health: updated feedyard PM analysis Vince P. Schielack, Oklahoma State University, Stillwater, OK (Vince Schielack III, Brett Blackwell, Michael D. Buser, Philip N. Smith, George P. Cobb, Bradley Johnson) |
| 3:35PM 3:45PM | 121337796 | Break Organic and elemental carbon in atmospheric fine particulate in an animal agriculture intensive area in North Carolina: estimation of secondary organic carbon concentration Lingjuan W. Wang-Li, North Carolina State University, Raleigh, NC (Qian-Feng Li, Lingjuan Wang-Li, R.K.M. Jayanty) |
| 4:00PM | 121337541 | Monitoring of Fine Particulates Downwind of Broiler Houses John W. Worley, University of Georgia, Athens, GA (J. W. Worley, M. Czarick, B.D. Fairchild, C. W. Ritz, L.P. Naeher) |
| 4:15PM | 121336904 | PM2.5 stack sampler performance - laboratory evaluation Michael D. Buser, Oklahoma State University, Stillwater, OK (M.D. Buser, D.P. Whitelock) |

Wednesday, August 1 - 2:30PM-5:00PM SESSION 339 AIR QUALITY MODELING - Sponsored by SE-305

| Time | Paper # | Title/Authors |
|------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM 2:35PM | 121338461 | Introduction Release Mechanisms of Greenhouse Gases, Ammonia, and Hydrogen Sulfide from Liquid Dairy Manure Hao Zhang, Purdue University ABE, West Lafayette, IN |
| 2:50PM | 121337658 | Inverse-dispersion technique for assessing lagoon gas emissions Kyoung S. Ro, USDA-ARS, Florence, SC (Kyoung S. Ro) |
| 3:05PM | 121337788 | Temporal and spatial variations of bioaerosol concentrations emitted from an egg production farm in Southeast U.S.: Part II-in the vicinity Lingjuan W. Wang-Li, North Carolina State University, Raleigh, NC (Di Hu, Lingjuan Wang-Li, Otto Simmons, John Classen) |
| 3:20PM | 121337789 | Temporal and spatial variations of bioaerosol concentrations emitted from an egg production farm in Southeast U.S.: Part III-viable versus non-viable aerosols Lingjuan W. Wang-Li, North Carolina State University, Raleigh, NC (Di Hu, Jilan Chen, Lingjuan Wang-Li, Otto Simmons, John Classen) |
| 3:35PM 3:45PM | 121337784 | Break Modeling plume rise of air emissions from egg production housing system: application of AERMOD Lingjuan W. Wang-Li, North Carolina State University, Raleigh, NC (Manqing Ying, Lingjuan Wang-Li) |
| 4:00PM | 121337786 | Modeling rise of plume emitted from an animal housing ventilation fan: application of CFD Lingjuan W. Wang-Li, North Carolina State University, Raleigh, NC (Manqing Ying, Lingjuan Wang-Li, Larry Stikeleather) |
| 4:15PM | 121340840 | CFD Modeling of Air Quality inside Naturally Ventilated Broiler Barns as a Function of Barn Spatial Arrangement Jairo A. Osorio Saraz, National University of Colombia, Medellin, Colombia (Jairo Alexander Osorio Saraz, Keller Sullivan Oliveira Rocha, Ilda de Fatima Ferreira TinUco, Luciano Barreto Mendes, Tomas Norton, Robinson Osorio Hernandez, Richard S. Gates) |



Technical Sessions



Wednesday, August 1 - 2:30PM-5:30PM

SESSION 340

| Time | Paper # | Title/Authors |
|------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM 2:35PM | 121336992 | Introduction Effect of Microwave Drying on the Moisture Dependent Physical Properties of Corn Seeds Mohamed Hemis, Southern Illinois University, Carbondale, IL; University of Khemis Miliana, Algeria, Ain Defla, Algeria (Songul Gursory, Ruplal Choudhary, Mohamed Hemis, Dennis Watson) |
| 2:50PM | 121337565 | Twin-screw Extrusion Processing of Vegetable-Based Protein Rainbow trout (<i>Oncorhynchus mykiss</i>) Feeds Using Graded Levels of Microbial Fermented High Protein Soybean Meal (PSG) Kasiviswanathan Muthukumarappan, South Dakota State University, Brookings, SD (Parisa Fallahi, Kasiviswanathan Muthukumarappan, Kurt A. Rosentrater) |
| 3:05PM | 121337587 | Moisture adsorption characteristics of control, AFEX and PAKed Corn stover Kasiviswanathan Muthukumarappan, South Dakota State University, Brookings, SD (Yijing Wang, Kasiviswanathan Muthukumarappan, and Chinnadurai Karunanithy) |

Wednesday, August 1 - 2:30PM-5:30PM

SESSION 341

| Time | Paper # | Title/Authors |
|------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM 2:35PM | 121336869 | Introduction Characterization of microalgae for biofuels production Bi Zheting, University of Idaho, Moscow, ID (Zheting Bi) |
| 2:50PM | 121336706 | Cost Analysis of Microalgal Harvesting for Biofuel Production Adam J. Dassey, Louisiana State University, Baton Rouge, LA (Adam Dassey and Chandra Theegala) |
| 3:05PM | 121338040 | Energy evaluation in the High Velocity Algae Raceway Integrated Design (ARID-HV) Peter M. Waller, University of Arizona, Tucson, AZ (Said Attalah, Peter Waller, George Khawam, Randy Ryan) |
| 3:20PM | 121338429 | Environment Enhancing Energy —The Analysis of Carbon Capture, Nutrient Reuse and Energy Production of a Novel Wastewater Treatment System that Incorporates Large Scale Algal Biofuel Production Yan Zhou, University of Illinois at Urbana Champaign, Urbana, IL (Yan Zhou*, Lance Schideman, Yuanhui Zhang) |
| 3:35PM 3:45PM | 121338045 | Break Hydrothermal Liquefaction of Diatoms to Produce Bio-crude Oil Peng Zhang, University of Illinois at Urbana-Champaign, Urbana, IL (Peng Zhang, Yuanhui Zhang, Guo Yu) |
| 4:00PM | 121337915 | Auger Reactor Gasification of Algal Blooms Produced In a Waste Water Treatment Facility Mahmoud A. Sharara, Department of Biological and Agricultural Engineering, University of Arkansas, Fayetteville, AR (Mahmoud A. Sharara, Samy Sadaka) |
| 4:15PM | 121340686 | Biological carbon mitigation using microalgae: The effect of harvest time on the carbon content of <i>Dunaliella tertiolecta</i> Damien Farrelly, University College Dublin, Dublin, Ireland (Damien Farrelly and Kevin McDonnell) |

Wednesday, August 1 - 2:30PM-5:30PM

SESSION 342

| Time | Paper # | Title/Authors |
|------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM 2:35PM | 121336796 | Introduction Modeling the Cost of Producing Hydrogenation-Derived Renewable Diesel Patrick E. Miller, University of Alberta, Edmonton, AB, Canada (Patrick Miller, Amit Kumar) |
| 2:50PM | 121345195 | Biomass pyrolysis bio-oil upgrading over noble metal catalysts Wei Lin, South Dakota State University, Brookings, SD (Zhongyi Ma, Lin Wei, Wangda Qu, James Julson) |
| 3:05PM | 121337229 | Catalytic Conversion of Syngas to Mixed Alcohols via Three-dimensionally Ordered Macroporous Cu-Fe based Catalyst Fei Yu, Mississippi State University, Starkville, MS (Yongwu Lu, Jin Hu, Peng Zhou, Jason Street, James Wooten, Eugene Columbus, Fei Yu*) |
| 3:20PM | 121336728 | Conditioning of biomass derived syngas over char supported catalyst Kazhen Qian, Oklahoma State University, Stillwater, OK (Kazhen Qian, Ajay Kumar, Raymond Huhnke) |
| 3:35PM 3:45PM | 121337524 | Break Scale-up of Liquid Hydrocarbon Production Using Gasified Biomass Jason T. Street, Mississippi State University, Mississippi State, MS (Jason Street, James Wooten, Eugene Columbus, and Fei Yu) |
| 4:00PM | 121337425 | Transportation Fuels Production from Biomass through Biomass Gasification, Gas Cleaning and Fischer-Tropsch Synthesis: A Technical and Economic Analysis Jin Hu, Mississippi State University, Starkville, MS (Jin Hu, Fei Yu, Yongwu Lu, Jian Liu, Qiang Yan, James Wooten, Eugene P. Columbus) |
| 4:15PM | 121336867 | Screening of Oleaginous Fungi from Oil-rich Plants for Biodiesel Production Yan Yang, University of Minnesota-Twin Cities, Saint Paul, MN (Yan Yang, Bo Hu) |

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|--------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4:30PM | 121336873 | Assessment of water concentration in ethanol and diesel fuel emulsions with ultrasound Bo Liu, University of Missouri, Columbia, MO (Bo Liu and A. Bulent Koc) |
|--------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Wednesday, August 1 - 2:30PM-5:00PM

SESSION 344

| Time | Paper # | Title/Authors |
|------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM 2:35PM | 121337155 | Introduction Biodiversity and water quality implications of cocoa production practices in West Africa Eric C. Cummings, University of Arkansas, Fayetteville, AR (Mansoor Leh, Marty Matlock, Lanier Nalley, Kate Herzog) |
| 2:50PM | 121337771 | Assessing the Development of Ecosystem Services in Constructed Stormwater Wetlands Laura S. Merriman, North Carolina State University, Raleigh, NC (Laura S. Merriman and William F. Hunt) |
| 3:05PM | 121337773 | Determining the Fraction of the Temporary Storage Volume Occupied by Emergent Vegetation in Constructed Stormwater Wetlands and a Hybrid Wet Pond Laura S. Merriman, North Carolina State University, Raleigh, NC (Laura S. Merriman, Corinne E. Dumonceau, William F. Hunt, and Ryan J. Winston) |
| 3:20PM | 121337898 | Mapping and Measuring Ecosystem Services from the Field to Watershed scale: A NW Arkansas case study Mansoor D. Leh, University of Arkansas, Fayetteville, AR (Mansoor Leh, Marty Matlock, Eric Cummings) |
| 3:35PM | 121337808 | Characterizing Effects of Hydrothermal Liquefaction Bioenergy Production Process on Emerging Contaminants and Wastewater Reuse Potential Mai T. Pham, University of Illinois at Urbana-Champaign, Urbana, IL (Mai Pham, BK Sharma, Lance Schideman, Yuanhui Zhang) |
| 3:50PM 4:00PM | 121338255 | Break Patterns of estrogen occurrence in sewage treatment plant effluent (STPE) from a university campus Senorpe A-Hiablie, The Pennsylvania State University, University Park, PA (A-Hiablie, S., H.A. Elliott, C.D. Church, J.E. Watson, and C. F. Williams) |
| 4:15PM | 121337159 | Biodegradation of organophosphate pesticides in riparian wetlands receiving agricultural drainage Mahmut Ekrem Karpuzcu, University of California Berkeley, Berkeley, CA (M. Ekrem Karpuzcu, Jeremy S. Hanlon, David L. Sedlak, William T. Stringfellow) |
| 4:30PM | 121340968 | Differences of Pyrolyzed Products of Microalgae Upon Temperature Zhihui Mao, China Agricultural University, Haidian Beijing, China (Y. Zhou, C. Hao, Z. Mao) |
| 4:45PM | 121338076 | Wetland and Floodplain Mapping Using Spatial Analyst and Soil Attributes Richard A. Weber, USDA-NRCS, Fort Worth, TX (Richard Weber and Dwain Daniels) |

Wednesday, August 1 - 2:30PM-5:00PM

SESSION 345

| Time | Paper # | Title/Authors |
|------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30PM 2:35PM | 121337454 | Introduction A computational fluid dynamics model of algal growth in open raceways Jessica L. Drewry, University of Arizona, Tucson, AZ (Drewry, Jessica L.; Liang, Yifan; Choi, Christopher Y.) |
| 2:50PM | 121338128 | A new approach to modeling gene regulation using flux ratios and the implications for butanol production from clostridia Ryan S. Senger, Virginia Tech, Blacksburg, VA (Ryan Senger) |
| 3:05PM | 121337313 | Computer Model for Synthesis Gas Fermentation Randy Phillips, Oklahoma State University, Stillwater, OK (John R. Phillips, Hasan K. Atiyeh, Raymond L. Huhnke) |



Technical Sessions



Wednesday, August 1 - 2:30PM-5:00PM

SESSION 347

ENGINEERING SUSTAINABILITY: AN OVERVIEW OF ONGOING NATIONAL AND INTERNATIONAL INITIATIVES IN PRODUCTION AGRICULTURE AND MACHINERY MANUFACTURING - INVITED PRESENTATIONS - Sponsored by T-13

Moderator: John Fisher, The Alamo Group

LOCATION: ROSETTA

There are numerous ongoing national and international initiatives focused on measuring various aspects of sustainability. Several of these initiatives are directed at production agriculture or production agricultural equipment. Attendees at this session will be provided with first hand updates regarding some of the key initiatives and learn about some of the common threads found throughout the various efforts. Details will be provided regarding where ASABE is connected and involved in sustainability - and how attendees can get involved and learn more about this important issue.

Speakers:

Mike Senneff - Principal, Product Safety Help LLC; International Chair, ISO TC 23/SC3

Dr. Bill Norman - VP Technical Services, National Cotton Council

Dr. Marty Matlock - Professor, University of Arkansas

Dr. Mike Leggett - Sr. Director, Environmental Policy, CropLife America

Burleson Smith - VP Environmental Affairs and Sustainability, United Fresh Produce Association

Wednesday, August 1 - 2:30PM-5:00PM

SESSION 348

CARBONIZED BIOMASS UTILIZATION AND APPLICATION - LOCATION: OPAL

Title/Authors

Introduction

Manure-based and lignocellulosic biochar effects on phosphorous leaching and water holding capacity in a Norfolk soil

Keri B. Cantrell, USDA-ARS, Florence, SC (K.B. Cantrell, J.M. Novak, and D.W. Watts)

2:50PM 121337990 Effectiveness of Biochar as a Phosphorus fertilizer source for ryegrass and cotton

Keri B. Cantrell, USDA-ARS, Florence, SC (Patrick G. Hunt, Keri B. Cantrell, Jarrod O. Miller and Phil J. Bauer)

3:05PM 121337503 Upgrading bio-char into activated carbon materials through physical activation using flue gas atmospheres

Joseph P. Polin, South Dakota State University, Brookings, SD (Joseph P. Polin, Dr. Zhengrong Gu)

3:20PM 121337023 Soil property changes as a result of pyrolysis biochar applications

William J. Cook, Texas A&M Agrilife, College Station, TX (Annabel Van Orshoven, Bill Cook, Clyde Munster, Tony Provin, Kevin Mckinnis)



Photos courtesy of Kansas City Convention & Visitors Association

SAVE THE DATE!

2013 ASABE Annual International Meeting

July 21-24, 2013

Kansas City, Missouri



Socials & Hosted Receptions



SATURDAY, JULY 28

T#1

YPC MESQUITE RODEO SOCIAL OUTING

Saturday, July 28 – 6:00PM-11:00PM

A trip to Dallas is not complete without seeing a rodeo and eating barbecue! Join the YPC for a fun filled evening at the Mesquite Rodeo. The rodeo is sure to impress with bull riding, bareback riding, saddle bronco riding, steer wrestling, calf roping, team roping, and barrel racing. Plus, an all-you-can-eat BBQ meal is provided with the event. This is a family friendly event with spouses and guests encouraged to attend.

COST: \$60.00 includes transportation, rodeo and meal.

SUNDAY, JULY 29

E#1

FUN RUN/WALK/RELAY

Sunday, July 29 – 7:00AM-9:00AM

The 7th Annual Young Professional's Community Fun Run/Walk is a 5k run or 1 mile walk. All proceeds benefit the YPC efforts in increasing young member retention. Runners will meet at the registration desk the morning of the run.

COST: \$20.00

ASABE FOUNDATION SILENT AUCTION

Sunday, July 29 thru Wednesday, August 1 – 8:00AM-5:00PM

Location: Grand Ballroom

The ASABE Foundation Silent Auction will be opened for bidding beginning at 10:00AM on Sunday, July 29 and daily 8:00AM-5:00PM through Wednesday, August 1. Bidding ends at 3:00PM on Wednesday.

E#11

GALE A. HOLLOWAY MEMORIAL GOLF OUTING

Sunday, July 29 – 9:00AM-1:00PM

Let's set the scene - the meeting is about to begin and there is no better way to get you in the mood than by getting outside and swinging those clubs on Sunday morning. The Gale A. Holloway Memorial Golf Outing will be on Sunday morning, July 29. Prepare yourself for an unparalleled golfing experience! Stevens Park Golf Course provides fun, but challenging play to golfers of all skill levels. With rolling fairways, strategic water hazards and white-sand bunkers, we have everything you need to test your game. Be sure to add this fun event to your AIM registration form.

COST: \$100.00

ALPHA EPSILON ANNUAL MEETING

Sunday, July 29 – 3:00PM-5:00PM

Location: Plum Blossom B

Annual meeting for the honor society recognizing outstanding Agricultural and Biological Engineering students.

ASABE WELCOME RECEPTION

Sunday, July 29 – 4:30PM-6:00PM

Location: Grand Ballroom

All meeting registrants are invited to attend our welcome reception. This is a good time to network with other attendees and to make further plans for dinner after the reception. The Dallas Convention and Visitors Bureau will have a representative available to assist you in making your dining reservations.

E#3

WOMEN IN ASABE SOCIAL

Sunday, July 29 – 6:30PM-7:30PM

Location: Presidential Suite

The Women in ASABE social is an informal mixer open to all female ASABE members. Hosted by President Sonia Maassel Jacobsen, this event will provide a unique opportunity to meet, socialize and network with other women members from across ASABE. Refreshments will be served. Registration is required but there is no charge for this event.

OKLAHOMA STATE BAE ALUMNI AND FRIENDS

Sunday, July 29 – 6:30PM-8:30PM

Alumni and friends of Biological and Agricultural Engineering Department at Oklahoma State University invite you to join them in a social scheduled at Sonny Bryan's Smokehouse, 302 N Market St #101 in Dallas. For more information about cost or anything else, please contact Rachel Felice at Rachel.carson@okstate.edu

ALUMNI RECEPTION OF COLLEGE OF BIOSYSTEMS ENGINEERING AND FOOD SCIENCE, ZHEJIANG UNIVERSITY

Sunday, July 29 – 6:30PM-10:00PM

Location: Batik A

Alumni and visiting professors of College of Biosystems Engineering and Food Science, Zhejiang University are invited to enjoy a reception at the convention center and catch up with the old friends. Please send email to shaojin_wang@wsu.edu by July 27 if you plan to attend.

MONDAY, JULY 30

E#4

PRAYER BREAKFAST

Monday, July 30

6:30AM-8:00AM

The Fellowship of Christian Agricultural Engineers invites all meeting registrants, spouses and guests to the interdenominational prayer breakfast. The continental breakfast will begin promptly at 6:30AM and end at 8:00AM. Pre-registration and ticket is required.

COST: \$22.00



Socials & Hosted Receptions



GENERAL SESSION / RECOGNITIONS KEYNOTE SPEAKER

Monday, July 30 – 8:00AM-9:30AM

Location: Khmer Ballroom

ASABE President Sonia Maassel Jacobsen welcomes each of you to the ASABE Annual International Meeting. Our keynote speaker is Venkata Sundaram who is the manager of External Research Collaborations at Nestle Product Technology Centre, York, UK. The title of his presentation is “From Plant to Palate – R&D solutions for delighting consumers with confectionery”.

SGA

SPOUSE/GUEST BRUNCH

Monday, July 30 – 10:30AM-12:00PM

Location:

Gather with old friends and new acquaintances during the spouse/guest brunch. This event is open to anyone interested in this opportunity to connect with other guests of attendees and we welcome you. Enjoy a great mid-morning meal in a beautiful location while you have the chance to get to know others who are attending from all over the World! And, be mesmerized by stories about Texas Dames! Hear Carmen Goldthwaite, Storyteller, Author, Journalist and Teacher, relate stories about women who came to Texas, who were born in Texas, who shaped Texas history, who stirred up Texas. These are stories she gathered while crisscrossing the state, listening to her mother's stories of families and pioneers, prowling through libraries, archives, and courthouses. Their lives and their stories span Texas from the Rio Grande to the Red River, the Sabine River to the lands of New Mexico, from old cities to tiny villages, from the 1600's to today. Without these women, Texas' luster would be dimmer.

The Fort Worth native and a 7th generation Texan, Carmen Goldthwaite writes and tells the stories about the Texas she loves for Wild West and True West magazines. Fascinated by the distaff roles, she's written Texas women's stories for anthologies, such as *The Way West*, a 2005 Tor-Forge book and *Wild Women of the Old West*, a 2003 anthology from Fulcrum Publishing and her upcoming book, *Texas Dames, Sassy and Savvy*, a statewide column, “Texas Dames,” of the stories of Texas women who've pioneered in many roles and along many paths in Texas history. She's honored her mother in an essay, “Burgers and Butterflies,” that will be published in *Chicken Soup of the Soul: The Magic of Mothers and Daughters*, available in bookstores March 2012.

COST: Included with Spouse/Guest registration Fee;
Additional Guests may attend at the cost of \$50.00



E#13

AEM STUDENT AWARDS LUNCHEON

Monday, July 30 – 11:45AM-1:00PM

Location: Carpenter Ballroom

The Association of Equipment Manufacturers (AEM) is once again pleased to invite all of the ASABE student members to attend the 75th Annual AEM Student Awards Luncheon. This event is a wonderful time to learn more about the professional side of the world as you dine. The guest speaker will be Roger Hoy, Ph.D, Director of the University of Nebraska Tractor Test Laboratory.

Reservations for this luncheon must be made by Sunday, July 29. Luncheon reservations will be confirmed in your ASABE registration packet. Student Branch Advisors and AEM company members are also encouraged to attend.

COST: No cost for students
\$20.00 for all other registrants

YPC ALL IN GOOD FUN CONTEST

Monday, July 30 – 1:00PM-5:00PM

Location: Grand Ballroom

This is a great way to support the Young Professionals Community while laughing with (and at) your fellow engineers! This year, contestants will compete in a “Remember the Alamo” themed contest. Stop by the YPC booth to say hello and donate to your favorite contestant! Finals will be held right before the Fountain Wars competition.

FOUNTAIN WARS COMPETITION

Monday, July 30

| | |
|---------------|------------------------------------------|
| 2:00PM-2:30PM | Team Check-In |
| 2:30PM-4:30PM | Construction of Fountains |
| 4:30PM-5:00PM | Final Construction and Safety Inspection |
| 5:00PM-5:30PM | Team Test/Adjustment in Fountain |
| 5:30PM-7:30PM | Competition |

Location: Anatole Sculpture Park

Fountain Wars is a competition aimed at students in their sophomore and junior years of study. It provides students with hands-on experience in engineering design and most importantly the students have a great time. Teams are given two and a half hours to build a fountain that completes two technical tasks and provides an aesthetic display.

E#5

ASSOCIATION OF OVERSEAS CHINESE AGRICULTURAL, BIOLOGICAL, AND FOOD ENGINEERS (AOCABFE) ANNUAL BUSINESS MEETING

Monday, July 30 – 5:00PM-10:00PM

Location: Ruby

The AOCABFE annual meeting provides a platform for promoting and facilitating research and educational exchanges among researchers with Chinese origin or associations in the areas of agricultural, biological and food engineering. The ASABE meeting attendees with international collaboration interests are invited to attend the meeting as well. The AOCABFE activities in 2011-2012 will be reviewed and plans of action for 2012-2013 will be discussed. Following the business meeting the members of AOCABFE will be gathering at an off-site location for the awards dinner and an opportunity for socializing and networking. Recognition and awards will be presented at the banquet.

COST: \$65.00



Socials & Hosted Receptions



E#12

ASSOCIATION OF AGRICULTURAL, FOOD AND BIOLOGICAL ENGINEERS OF INDIAN ORIGIN (AABFEIO)

ANNUAL BUSINESS MEETING

Monday, July 30 – 5:30PM-6:30PM

Location: Opal

This will be the annual business meeting of the Association of Agricultural, Food and Biological Engineers of Indian Origin (AABFEIO). Tentative agenda for this meeting includes presentation and approval of last year's meeting minutes, selection of a new executive committee and other general discussion. This will be followed by dinner at the Mayuri Indian Restaurant in Dallas. The dinner is open to any ASABE member.

COST: \$25 member/ \$15 student

E#6

ASSOCIATION OF KOREAN AGRICULTURAL, BIOLOGICAL AND FOOD ENGINEERS (AKABFE) MEETING

Monday, July 30 – 6:30PM-8:00PM

Association of Korea Agricultural, Biological and Food Engineers will have a first meeting. A business meeting will take place and the Association dinner will follow at a restaurant in Downtown Dallas.

COST: \$30.00

TEXAS A&M UNIVERSITY RECEPTION

Monday, July 30 – 6:30PM-8:00PM

Make plans to attend the Texas A&M University reception which will be held at the West End Hoffbrau Steaks located at 311 N Market Street from 6:30PM to 8:00PM. Shuttle service will be available from the Hilton Anatole.

KANSAS STATE UNIVERSITY ALUMNI RECEPTION

Monday, July 30 – 7:00PM-9:00PM

Location: HS Suite 2

Alumni and friends are invited to renew friendships, revisit design legacies, and learn about some unique opportunities within the Biological and Agricultural Engineering Department. Faculty and students will be available to provide departmental updates and share happenings at Kansas State University and in Manhattan (Aggieville).

UNIVERSITY OF ILLINOIS ALUMNI AND FRIENDS RECEPTION

Monday, July 30 – 7:30PM-10:00PM

Location: Carpenter Ballroom

Alumni and friends of the University of Illinois Department of ABE are invited to attend. We will feature a hosted bar and snacks. Please come and share this opportunity to visit and hear what is new with the Orange and blue I-L-L-I-N-I!

VIRGINIA TECH ALUMNI & FRIENDS SOCIAL

Monday, July 30 – 8:00PM-10:00PM

Location: HS Suite 1

The Biological Systems Engineering Department at Virginia Tech cordially invites alumni and friends to this gathering on Monday evening. Come enjoy some refreshments and catch up on the latest happenings in the department and at Virginia Tech!

TUESDAY, JULY 31

PURDUE BREAKFAST

Tuesday, July 31 – 7:00AM-8:00AM

Location: Ming

Purdue University's Dean of Agriculture, the Agricultural and Biological Engineering Department, and the Engineering Alumni Association invite all alumni and friends to their complimentary breakfast. Reservations are required!! Call 765-494-1162, fax 765-496-1115, or email peerb@purdue.edu.

E#8

PENN STATE UNIVERSITY ALUMNI BREAKFAST

Tuesday, July 31 – 7:00AM-8:30AM

Location: Manchester

This event is open to all alumni, students, current employees, and friends of The Pennsylvania State University, sponsored by the Penn State Department of Agricultural and Biological Engineering. Come join us for the opportunity to meet old friends, faculty, students, and to get updated on current happenings in the ABE department. All guests are eligible to win door prizes.

COST: \$12.00

E#7

INTERNATIONAL BREAKFAST

Tuesday, July 31 – 7:00AM-8:30AM

Location: HS Suite 2

The International Breakfast is a great opportunity to interact with peers from many different countries. If you are coming from abroad or have an interest in international issues this is the best place to meet new people and begin long and fruitful working relationships. The speaker for this International Breakfast will be the 2011 recipient of ASABE's prestigious Kishida Award.

COST: \$22.00

E#9

MICHIGAN STATE UNIVERSITY BREAKFAST

Tuesday, July 31 – 7:00AM-9:00AM

Location: Verandah Parkview

Join the Michigan State University Alumni and friends for breakfast.

COST: \$10.00

ASABE ROBOTICS STUDENT DESIGN COMPETITION - DEMONSTRATIONS

Tuesday, July 31 – 8:00AM-10:00AM

Location: Grand Ballroom

The American Society of Agricultural & Biological Engineers (ASABE) Robotics Competition is a student design competition that was conceived in 2006. The aim of the competition is to encourage undergraduate as well as graduate students to develop innovative robotic solutions to real life problems in the agricultural arena. The competition travels with the Annual International Meeting, and hence, the solutions must allow transportation in airplanes. The challenge will be communicated through the website and digital fliers describing the rules, requirements, limitations, deadlines and demonstration procedures.



Socials & Hosted Reception



ASABE ROBOTICS STUDENT DESIGN COMPETITION - PRESENTATIONS

Tuesday, July 31 – 10:00AM-12:00PM

Location: Grand Ballroom

The competition is open to students in one or more departments from a single University. There is no maximum number of team members per team, so multiple teams from a single university are allowed. Every team should have a faculty advisor who is also the contact person with ASABE. There are no classes or leagues, every team will work on the same challenge. There are no limits to the budget. Teams are encouraged to obtain funding for their solutions and participation through on-campus resources such as departmental sources and Engineering Councils, as well as from companies.

ASABE BUSINESS MEETING

Tuesday, July 31 – 12:30PM-1:15PM

Location: Khmer Ballroom

President Sonia Maassel Jacobsen and President-Elect Tony Kajewski will preside over the society's update and business meeting.

FUTURE THINKING

– PANEL DISCUSSION & BRAINSTORMING

Tuesday, July 31 – 1:15PM-2:15PM

Location: Khmer Ballroom

Sponsored by: Future Thinking ASABE

Target Audience: All ASABE members, potential ASABE members

Learning Objectives: A forum to share information about the current ASABE structure and the proposed changes

Benefits: This is an opportunity for the general membership to provide input and suggestions for proposed changes to the divisions within ASABE. The results and proposed action from the recently commissioned student engagement, recruitment and retention study will be discussed.

Panelists:
Tami Brown-Brandl, USDA ARS
Sherry Hunt, USDA-ARS
Ron McAllister, CNH
Scott Osborn

ORDER OF THE ENGINEER INDUCTION CEREMONY

Tuesday, July 31– 3:00PM-5:00PM

Location: Khmer Ballroom

Engineering graduates and registered engineers are invited to accept the Obligation of the Engineer and a stainless steel ring, which is worn on the little finger of the engineer's working hand. All graduates of ABET accredited engineering programs; seniors in ABET accredited programs within two academic years of graduation; licensed PEs; and members of the Canadian Calling by reciprocity are invited to join the Order. All inductees must be present to accept their certificate and ring at the induction ceremony. The cost of entering the Order is \$10.00 and inductees may register with Tina Schultz at schultz@asabe.org before the meeting or in person at the membership booth at the meeting. Learn more about the Order here - <http://www.order-of-the-engineer.org/>.

ASABE FELLOWS INDUCTION CEREMONY

Tuesday, July 31 – 6:00PM-7:30PM

Location: Khmer Ballroom

All registrants are invited to this special recognition ceremony honoring the 2012 ASABE Fellows. Ten deserving ASABE individuals have been chosen to receive this most prestigious award. They are:

Ronald W. Brass
Glenn O. Brown
Larry W. Caldwell
Michael J. Delwiche
Harold M. Keener
Kasiviswanathan Muthukumarappan
Carol Plouffe
Itzhak E. Shmulevich
Daniel L. Thomas
Ernest W. Tollner

IOWA STATE UNIVERSITY ABE RECEPTION

Tuesday, July 31 – 7:00PM-8:00PM

Location: Manchester

Meet your old friends and make new friends and find out what is happening in the Department of Agricultural and Biosystems Engineering at Iowa State University.

E#10

ASABE FOUNDATION DINNER AT DELANEY VINEYARDS

Tuesday, July 31 – 7:15PM-10:30PM

Join the ASABE Foundation on Tuesday evening, July 31, as it hosts a benefit dinner at the beautiful Delaney Vineyards and Winery in—yes, really—Grapevine, Tex. The winery was completed in 1996, three years after the vineyard was planted, and the first bottling production took place in 1997. The facility contains 10 lush acres of Cynthiana grapes, the best southern-bred hybrid vine to grow in the area. Guests will be treated to a stimulating lecture by Dr. William McGlynn, horticultural food scientist at the Oklahoma State University, who will present "Flavors in Balance." His talk will provide a basic introduction to understanding how our senses work to shape our perceptions of what we eat and drink, a simple primer on wine tasting techniques and terminology, and some guidelines for matching wine and food flavors. Dinner and transportation to and from the winery—and the company of some great folks—are all included at \$100.00/person





Socials & Hosted Reception



WEDNESDAY, AUGUST 1

ALA

ASABE AWARDS LUNCHEON

Wednesday, August 1 – 12:30PM-2:00PM

Location: Khmer Ballroom

Please join your colleagues and their guests in the event that honors the newly elected Fellows and the recipients of the Society's major awards. We will also recognize students and other ASABE members that have made outstanding contributions to the Society and the profession this year. Following the awards, 2011-2012 President Sonia Maassel Jacobsen will present the gavel to 2012-2013 ASABE President Tony Kajewski.

ASABE AWARDS:

Pharos of Alexandria Global Learning
Yoerger Preprofessional Engineer of the Year
Robert E. Stewart Engineering-Humanities
Gale A. Holloway Professional Development
New Holland Young Researcher

Young Extension Worker

A.W. Farrall Young Educator

Sunkist Young Designer

McCormick Case Gold Medal

Rain Bird Engineering Concept of the Year

James R. and Karen A. Gilley Academic Leadership

Evelyn E. Rosentreter Standards

PEI Professional Engineer of the Year

Kishida International

Massey-Ferguson Educational Gold Medal

International Food Engineering

ADS/Hancor Soil and Water Engineering

G.B. Gunlgoson Countryside Engineering

Mayfield Cotton Engineering

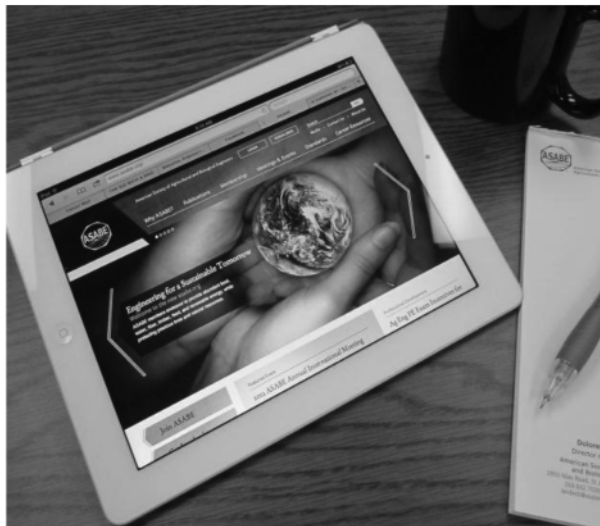
SMV Technologies Ergonomics, Safety and Health

Advancement of Surface Irrigation

Heermann Sprinkler Irrigation

John Deere Gold Medal

**COST: INCLUDED WITH REGISTRATION;
EXTRA TICKETS \$40.00**



**ASABE Foundation
is raffling off
not 1, but 2
Apple i-pads
w/Wi-Fi and 32 GB
(3rd Generation)**

Purchase your raffle tickets at the
Silent Auction or from any
Foundation Board member.
Drawing will be 3:00PM, Wednesday, August 1



Tours



SATURDAY, JULY 28

T#1

MESQUITE RODEO AND BARBECUE

Saturday, July 28 – 6:00PM-11:00PM

A trip to Dallas is not complete without seeing a rodeo and eating barbecue! Join the YPC for a fun filled evening at the Mesquite Rodeo. The rodeo is sure to impress with bull riding, bareback riding, saddle bronco riding, steer wrestling, calf roping, team roping, and barrel racing. Plus, an all-you-can-eat BBQ meal is provided with the event. This is a family friendly event with spouses and guests encouraged to attend.

COST: \$60.00 includes transportation, rodeo and meal.

SUNDAY, JULY 29

T#2

DALLAS DAZZLES CITY TOUR

Sunday, July 29 – 1:00PM-4:00PM

This world-renowned city features a rare blend of modern sophistication, southwest warmth, and cosmopolitan flair. Enjoy this driving tour as you learn more about Dallas history, how Dallas got its name and why it was founded on the banks of the Trinity River. See Victory Park and this area just west of downtown that is newly developed. Also visit the West End Historic District with an opportunity to explore the Grassy Knoll, the site of the assassination of President John F. Kennedy. Discover Pioneer Plaza and the larger than life bronze sculpture that commemorates the Shawnee Trail, as well as landmarks on Main Street. Drive through the Arts District, and some of Dallas' trendiest neighborhoods including Uptown and the exciting West Village. This comprehensive overview will introduce you to Dallas and some of the local hotspots, landmarks, cultural venues, and places for dining, nightlife and shopping that you can explore more fully during your visit.

COST: \$35 includes transportation and guide.

MONDAY, JULY 30

T#3

DALLAS COWBOYS STADIUM TOUR

Monday, July 30 – 1:00PM-5:00PM

All meeting participants and guests are invited to join YPC for a technical tour of Cowboys Stadium. The innovative architecture of this stadium features the world's largest domed structure with 2 arches almost 1/4 mile in length and a retractable roof. It is a monumental building combines imagination and respect for tradition. This is a family friendly event that includes a tour of the press boxes, postgame interview room, locker rooms, and playing field. Comfortable walking shoes are recommended.

COST: \$45 includes transportation, entrance, and guide.

TUESDAY, JULY 31

T#4

BAIRD'S BREAD FACTORY TOUR

Tuesday, July 31 – 10:00 AM-1:00 PM

Join the YPC for a tour of Mrs. Baird's Bread Factory. Mrs. Baird's celebrated over 100 years of baking history in 2008. Smell the fresh-baked bread and see a real bakery in action. Even today, with the latest technology, Mrs Baird's does not take short cuts in the baking process. From start to finish, it still takes 6 hours to make a loaf of bread! That's been a part of Mrs. Baird's recipe for over 100 years. Mrs. Baird's is one of the few remaining family-owned bakeries in the entire nation. See what makes them so successful! Attire for those attending this event: long pants, closed-toed shoes (no flip-flops or sandals) and no jewelry. This is a family friendly event, with spouses and guests encouraged to attend.

COST: \$30 includes transportation and guide.

T#5

QUILTING AND SHOPPING IN HISTORIC DOWNTOWN CARROLLTON

Tuesday, July 31, 2012 – 9:30 AM – 1:30 PM

Travel to Historic Downtown Carrollton and feel the history of a town established on this exact spot in the 1800s. For the quilters and crafters in the group, The Old Craft Store has planned a hand stitching craft suitable for all ability levels that we can complete during our visit. There will also be time to shop for quilting craft supplies.

For those in the group who prefer not to participate in the quilting activity, and for the quilters after completing their craft, experience the Old West as you stroll around this charming town and browse in distinctive and eclectic shops that offer many exciting and distinguished items not found elsewhere. There are also several unique restaurants available to enjoy a snack or lunch on your own.

Visit these websites to see more about Carrollton and the Old Craft Store: The Old Craft Store <http://www.theoldcraftstore.com/>
Downtown Carrollton <http://www.historicdowntowncarrollton.com/>

COST: \$30 includes transportation and quilting activity;

\$23 for tour without quilting activity





Tours



T#6

SOUTHFORK RANCH

Tuesday, July 31 – 1:00PM-5:00PM

We encourage all meeting participants and guests to join YPC on a tour of one of the most famous ranches in Texas. No visit to Dallas is complete without seeing the legendary Southfork Ranch. For thirteen years, television sets were tuned into 356 episodes of “Dallas,” one of the longest running series in television history. Today, Southfork continues to welcome visitors to see where “Dallas” was filmed and to experience the lifestyle made famous by the Ewings.

You will have a guided tour of the famed Ewing Mansion and re-live exciting moments from the series in the “Dallas Legends” exhibit, featuring an exciting array of memorabilia from the series, including the gun that shot J.R., Lucy’s Wedding Dress, the “Dallas” Family Tree, and Jock’s Lincoln Continental. Time is allowed to stroll on the ranch grounds, eat at Miss Ellie’s Deli, or shop in two themed retail stores, offering a diverse selection of clothing, accessories, gifts, and collectibles.

COST: \$40 includes transportation, entrance, and guide.

WEDNESDAY, AUGUST 1

T#7

SPOTLIGHT ON JFK – DEALEY PLAZA AND THE SIXTH FLOOR MUSEUM

Wednesday, August 1 – 9:00AM-12:00PM

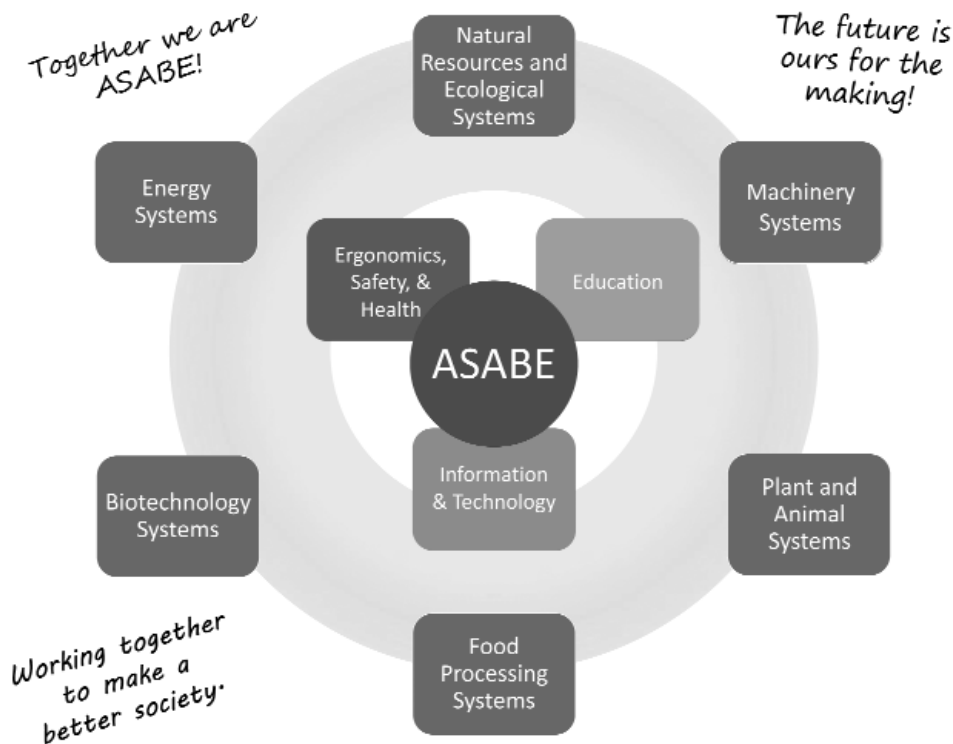
The assassination of President John F. Kennedy on November 22, 1963 was a dark day in Dallas and the world. This in-depth tour will provide some insight into the events surrounding the assassination. Stop at Dealey Plaza to see the actual motorcade route, placement of witnesses and where the Zapruder film was made. Visit The Sixth Floor Museum, located in the former Texas School Depository and have a tour of the educational exhibit that examines the life, death and legacy of John F. Kennedy.

COST: \$50 includes transportation, guide and entrance & audio tour at Sixth Floor Museum. Note: this tour is not available to the general public and includes certified tour guides.

Future Thinking – Panel Discussion & Brainstorming

Tuesday, July 31 – 1:15PM-2:15PM

Khmer Ballroom, Hilton Anatole





Committees to Convene



These committees are scheduled to meet in conjunction with the 2012 ASABE Annual International Meeting. An asterisk (*) by a specific committee indicates that the committee is meeting in closed session. Interested persons are welcome to all other committee meetings. Note that the schedule is subject to change. Meetings will be held at the Hilton Anatole, Dallas, Texas. Committees are listed by day, time and then room.

UPDATED: July 10, 2012

EXECUTIVE

ASABE Board of Trustees

SUNDAY 9:30AM-12:30PM – Batik A
THURSDAY, 10:00AM-3:00PM – Batik A&B

ASABE Foundation BOT Orientation

MONDAY, 12:15PM-2:15PM – Travertine

ASABE Foundation Board of Trustees

WEDNESDAY, 9:00AM-12:00PM – Madrid

E-02 Constitution and Bylaws

Not Meeting

E-05 Marketing and External Communications

MONDAY, 12:15PM-2:15PM – Lalique

E-07 Issues Management & Social Action

MONDAY, (following special session) – Ming

E-08 Fellows

TUESDAY, 7:00AM-8:00AM – Batik A

E-20 Finance

SUNDAY 8:30AM-9:30AM – Dardanelles

Nominating Committee 2012

MONDAY, 12:15PM-2:15PM – Monte Carlo
WEDNESDAY, 8:00AM-9:15AM – Dardanelles

Nomination Committee 2013

Not Meeting

MEETINGS COUNCIL

SUNDAY 1:30PM-3:00PM – Inverness
THURSDAY, 7:00AM-10:00AM – Fleur de Lis A

MEMBERSHIP

DEVELOPMENT COUNCIL

SUNDAY 1:30PM-3:00PM – Batik B
THURSDAY, 8:00AM-10:00AM – Inverness

M-102 Awards Coordinating

WEDNESDAY, 5:15PM-7:00PM – Batik A

M-111 John Deere/McCormick-Case Gold Medal

TBA

*M-112 Massey-Ferguson Gold Medal

Not Meeting

*M-113 Engineering Concept of the Year

TBA

M-114 Young Researcher (New Holland)

Not Meeting

M-115 Young Educator (A.W. Farrall)

TBA

M-116 Young Designer (Sunkist)

TBA

M-117 Young Extension Worker

TBA

M-122 Stewart Engineering Humanities

TBA

*M-131 Fellows Screening

Not Meeting

M-141 Technical Paper Awards

TBA

*M-151 Henry Giese ASABE Structures & Environment

TBA

M-152 ADS/Hancor Soil & Water Engineering

TBA

*M-154 International Food Engineering Award

MONDAY, 6:30AM-7:30AM – Batik B

*M-155 Gunlogson Countryside Engineering

TBA

*M-156 Kishida International

TBA

M-157 Ergonomic Safety and Health

TBA

M-158 Mayfield Cotton Engineering

TBA

M-159 Award for the Advancement of Surface Irrigation

TBA

M-160 Evelyn E. Rosentreter Standards Award

TBA

M-161 PEI Professional Engineer of the Year

TBA

M-162 Heermann Sprinkler Irrigation Award

Not Meeting

M-163 Gale A. Holloway Professional Development Award

TBA

M-164 Yoerger Preprofessional Engineer of the Year Award

TBA

M-165 Pharos of Alexandria Global Learning Award

Not Meeting

M-166 James R. and Karen A. Gilley Academic Leadership Award

TBA

M-170 Historic Commemoration

WEDNESDAY, 7:00AM-8:00AM – Batik A

INTERNATIONAL AFFAIRS

INTL-601 International Affairs

TUESDAY, 6:30PM-8:00PM – Travertine

SECTION STEERING COMMITTEE

MDC-S02 Section Steering

TUESDAY, 8:00AM-9:15AM – Batik A

STUDENT ORGANIZATION AND AWARDS

P-120 Student Organizations

TUESDAY, 7:00AM-8:00AM – Batik B

P-121 G.B. Gunlogson Student Environ

Design Competition

WEDNESDAY, 8:00AM-9:15AM – Batik B

P-122 Boyd-Scott Graduate Research Award

MONDAY, 5:30PM-7:00PM – Emerald

P-123 Student Paper Competition (K.K.

Barnes)

TBA

P-124 AGCO National Student Design

Competition

TBA

P-125 AEM Student Trophies Competition

TBA

P-126 Rules Subcommittee

TBA

P-127 Robotics Student Design Competition

TBA

PUBLICATIONS COUNCIL

SUNDAY 1:30PM-3:00PM – Dardanelles

THURSDAY, 8:00AM-10:00AM – Edelweiss

P-511 Refereed Publications

TUESDAY, 5:00PM-7:00PM – Edelweiss

P-513 Resource Editorial Board

TUESDAY, 8:00AM-9:15AM – Dardanelles

P-515 Textbooks and Monographs

MONDAY, 12:15PM-2:15PM – Fleur de Lis A



Committee Meetings



STANDARDS COUNCIL

SUNDAY 1:30PM-3:00PM – Edelweis
THURSDAY, 8:00AM-10:00AM –
Dardanelles

T-01 Standards (Policy & Adoption)

WEDNESDAY, 4:30PM-6:30PM – Madrid

T-13 International Standardization

MONDAY, 6:30PM-7:30PM – Madrid

BIOLOGICAL ENGINEERING DIVISION

BE-01 Executive

TUESDAY, 5:30PM-7:00PM – Steuben

BE-02 Steering

TUESDAY, 5:30PM-7:00PM – Steuben

BE-05 Publications

Not Meeting

BE-22 Ecological Engineering

Not Meeting

BE-23 Biosensors

TUESDAY, 8:00AM-9:15AM – Rosetta

BE-24 Soil and Groundwater Remediation

Not Meeting

BE-26 Modeling Biological Processes

Not Meeting

BE-28 Bioconversion and Bioprocesses

TUESDAY, 7:00PM-9:00PM – Rosetta

BEEM Project

MONDAY, 12:15PM-2:15PM –
Dardanelles

EDUCATION DIVISION

ED-01 Executive/Steering

WEDNESDAY, 8:00AM-9:15AM – Batik
A

ED-04 Referred Publications Review and Paper Awards

WEDNESDAY, 10:00AM-11:00AM –
Milan

ED-203 Undergraduate & Graduate Instruction

MONDAY, 5:15PM-7:00PM – Travertine

ED-204 Engineering & Technology Accreditation

TUESDAY, 8:00AM-9:15AM – Batik B

ED-205 Engineering Technology & Management Education

MONDAY, 5:15PM-7:00PM – Fleur de Lis
A

ED-206 Agr Tech & Mgmt Curriculum Review & Program Recog

MONDAY, 5:15PM-7:00PM – Fleur de Lis
A

ED-208 Extension

WEDNESDAY, 8:00AM-9:15AM – Fleur
de Lis B

ED-210 Academic Program Administrators

MONDAY, 5:45PM-7:00PM – Steuben

ED-210/1 Steering

MONDAY, 5:15PM-5:45PM – Steuben

ED-211 Undergraduate Engineering Prgm & Instructional Chairs

TBA

ED-412 Professional Ethics

TBA

ED-414 Engineering Licensure

MONDAY, 12:15PM-2:15PM – Inverness
(being held jointly with PEI)

ED-416 Continuing Professional Development

MONDAY, 6:30PM-8:00PM – Fleur de Lis
A

EDUCATION COMMUNITY

TBA

ERGONOMICS, SAFETY & HEALTH DIVISION

ESH-01 Executive / Oversight

WEDNESDAY, 2:30PM-4:30PM – Milan

ESH-02 Policy and Forward Planning

WEDNESDAY, 7:00AM-8:00AM – Milan

ESH-03 Standards

TUESDAY, 4:30PM-6:30PM –

ESH-03/1 External Standard Development

TUESDAY, 4:30PM-6:30PM –

ESH-03/2 Internal Standard Development

TUESDAY, 4:30PM-6:30PM –

ESH-04 Technology Exchange

TUESDAY, 7:00AM-9:15AM – Monte
Carlo

ESH-04/1 Journal of Agricultural Safety and Health

TUESDAY, 7:00AM-9:15AM – Monte
Carlo

ESH-04/2 Farmers With Disabilities

Technology Exchange

TUESDAY, 7:00AM-9:15AM – Monte
Carlo

ESH-05 Nominations

MONDAY, 7:00AM-8:00AM – Edelweiss

FOOD AND PROCESS ENGINEERING INSTITUTE

FPE-01/02 Executive & Steering

SUNDAY 3:30PM-5:30PM – Batik B

FPE-02/2 Nominating

SUNDAY 3:30PM-5:30PM – Batik B

FPE-01/02 Executive & Steering

WEDNESDAY, 5:15PM-7:00PM – Coral

FPE-02/2 Nominating

WEDNESDAY, 5:15PM-7:00PM – Coral

FPE-03 Standards Group

MONDAY, 5:15PM-7:00PM – Plum
Blossom B

FPE-04 Publications Group

WEDNESDAY, 8:00AM-9:15AM – Plum
Blossom A

FPE-06 General Program

Not Meeting

FPE-701 Physical Properties of Agricultural Products

MONDAY, 5:15PM-7:00PM – Plum
Blossom A

FPE-702 Crop & Feed Processing & Storage

MONDAY, 12:15PM-2:15PM – Obelisk A

FPE-703 Food Processing

TUESDAY, 5:15PM-7:00PM – Coral

FPE-707 Food and Organic Waste Management & Utilization

MONDAY, 7:00AM-8:00AM – Plum
Blossom A

FPE-709 Biomass Energy & Industrial Products

TUESDAY, 8:00AM-9:15AM – Plum
Blossom A

FPE-712 Speciality Crop Post-harvest Engineering

TUESDAY, 8:00AM-9:15AM – Plum
Blossom B

INFORMATION AND ELECTRICAL TECHNOLOGIES DIVISION

IET-01 Executive

SUNDAY 3:30PM-5:30PM – Dardanelles

IET-02 Steering

WEDNESDAY, 5:15PM-7:00PM –
Travertine

IET-03 Standards

WEDNESDAY, 8:00AM-9:15AM – Wyeth

IET-04 Publications Review and Paper Awards

WEDNESDAY, 7:00AM-8:00AM – Wyeth

IET-06 Programs

TBA

IET-07 Forward Planning & Structure

MONDAY, 12:15PM-2:15PM – Edelweiss

IET-217 Computational Methods, Simulations, and Applications

TUESDAY, 5:15PM-7:00PM – Obelisk A

IET-254 Emerging Information Systems

WEDNESDAY, 8:00AM-9:15AM –
Travertine

IET-312 Machine Vision

TUESDAY, 8:00AM-9:15AM – Obelisk A

IET-318 Mechatronics and Biorobotics

TUESDAY, 7:00PM-9:00PM – Obelisk A

IET-348 Electromagnetics and Spectroscopy

MONDAY, 5:15PM-7:00PM – Edelweiss

IET-353 Instrumentation & Controls

MONDAY, 7:00PM-9:00PM – Edelweiss

IET-433 Electrical Utilization & Energy Apps

TBA



Committee Meetings



IET-433/1 ASABE-IES Ag Lighting Group
TBA
IET-433/2 Electric Fence Controller
TBA
IET-433/3 Fan Testing
TBA
IET-433/4 Standby Electric Power
TBA
IET-435 Electrical Code for Agriculture
TBA
IET-441 Milk Handling Equipment
MONDAY, 5:15PM-7:00PM – Lalique

POWER AND MACHINERY DIVISION

PM-01 Executive
SUNDAY 6:00PM-8:00PM – Edelweis
PM-02 Steering
SUNDAY 6:00PM-8:00PM – Edelweis
PM-01 Executive
WEDNESDAY, 7:00AM-8:00AM – Madrid
PM-02 Steering
WEDNESDAY, 7:00AM-8:00AM – Madrid
PM-03 Standards
WEDNESDAY, 8:00PM-10:00PM – Madrid
PM-03/2 Farm Materials Handling
WEDNESDAY, 5:15PM-7:00PM – Dardanelles
PM-03/3 Farm Materials Transport
TBA
PM-04 Publications Review
TUESDAY, 8:00AM-9:15AM – Fleur de Lis B
PM-05 Nominating
TBA
PM-23 & US TAG ISO/TC23
WEDNESDAY, 7:00PM-8:00PM – Madrid
PM-23/14 Ag Mach. – Sym., Disp & Man & US TAG ISO/TC23/SC14
MONDAY, 3:30PM-4:30PM – Madrid
Ag Electronics
MONDAY, 1:30PM-3:00PM – Milan
PM-23/19/1 Electronics for Mobile Equipment (ISOBUS)
TBA
PM-23/19/3 Electronics for Identification (Animal)
TBA
PM-23/19/5 Wireless Sensor Networks
TBA
PM-23/19/6 Safety of Control Systems
TBA
PM-23/19/7 Testing Proc for Positioning & Guidance Sys in Ag
TBA
PM-23/2 Ag Machinery – Common Tests and

US TAG ISO/TC23/SC2
TUESDAY, 4:30PM-6:30PM – Milan
PM-23/2/1 Environment Within Ag Vehicle Enclosures
TBA
PM-23/2/2 ATSC ROPS Subcommittee
MONDAY, 9:30AM-10:30AM – Madrid
PM-23/3 Ag Machinery- Operator Comfort & US TAG ISO/TC23/SC3
TUESDAY, 10:30AM-12:30PM – Madrid
PM-23/3/1 Implement Jacks [PM-03/5]
MONDAY, 1:30PM-3:00PM – Madrid
PM-23/4 Tractors and US TAG ISO TC23/SC4
WEDNESDAY, 8:00AM-12:00PM – Madrid
PM-23/4/1 Agricultural Equipment Braking
TUESDAY, 2:30PM-4:30PM – Milan
PM-23/4/2 Agricultural Loader
TBA
PM-23/4/3 Lighting & Marking
MONDAY, 3:30PM-5:30PM – Milan
PM-23/4/4 Tractor and Implement Hydraulics
Not Meeting
PM-23/4/5 Tractor Implement Interface/PTO
TUESDAY, 8:00AM-10:00AM – Madrid
PM-23/6 Application Sys & US TAG ISO/TC23/SC6
TUESDAY, 6:30PM-8:30PM – Milan
PM-23/6/1 Liquid Materials Application
MONDAY, 5:30PM-7:30PM – Milan
PM-23/6/2 Aviation
TBA
PM-23/6/3 Dry Materials
TBA
PM-23/6/4 Spray Modeling and Application Techniques
Saturday, July 28, 12:00PM-5:00PM – Batik B
PM-23/6/4 Spray Modeling and Application Techniques
SUNDAY 8:30AM-11:30AM – Batik B
PM-23/7 Harvest and US TAG ISO/TC23/SC7
WEDNESDAY, 8:00AM-9:30AM – Milan
PM-23/7/1 Grain Harvesting
TBA
PM-23/7/2 Forage & Biomass Engineering
TUESDAY, 6:30PM-8:00PM – Madrid
PM-23/7/3 Cotton Engineering
TUESDAY, 5:15PM-7:00PM – Inverness
PM-42 Cultural Practices Equipment
TUESDAY, 5:15PM-7:00PM – Emerald
PM-43 Farm Machinery Management
TUESDAY, 8:00AM-9:15AM – Edelweiss
PM-45 Soil Dynamics Research
TUESDAY, 8:00AM-9:15AM – Lalique
PM-46 Tractive & Transport Efficiency
TUESDAY, 8:00AM-9:15AM – Lalique

PM-47 Distinguished Lecture Series
TBA
PM-48 Speciality Crop Production Engineering
TBA
PM-52 Turf & Landscape Equipment Systems
WEDNESDAY, 5:15PM-7:00PM – Batik B
PM-54 Precision Agriculture
MONDAY, 5:15PM-7:00PM – Obelisk A
PM-58 Agricultural Equipment Automation
WEDNESDAY, 7:00AM-8:00AM – Plum Blossom A

STRUCTURES AND ENVIRONMENT DIVISION

SE-01 Executive
SUNDAY 3:30PM-5:30PM – Edelweiss
SE-02 Steering
WEDNESDAY, 7:00PM-9:00PM – Peridot
SE-03 Standards
TUESDAY, 5:15PM-7:00PM – Plum Blossom A
SE-04 Paper Awards
TBA
SE-05 Publications Review
TBA
SE-06 Program
TBA
SE-07/1 Agri-Industrial Facility Design and Operation
TUESDAY, 5:15PM-7:00PM – Plum Blossom A
SE-20 Structures Group
TUESDAY, 7:00PM-9:00PM – Plum Blossom B
SE-20/4 Bulk Solids Handling and Storage
TBA
SE-30 Environmental Quality & Control Group
WEDNESDAY, 5:15PM-7:00PM – Obelisk A
SE-301 Environmental Physiology
TUESDAY, 7:00AM-8:00AM – Obelisk A
SE-302 Environment of Animal Structures
MONDAY, 5:15PM-7:00PM – Fleur de Lis B
SE-303 Environment of Plant Structures
MONDAY, 12:15PM-2:15PM – Fleur de Lis B
SE-305 Environment Air Quality
TUESDAY, 5:15PM-7:00PM – Monte Carlo
SE-40 Facilities & Systems Group
WEDNESDAY, 5:15PM-7:00PM – Peridot
SE-402 Beef Facilities
MONDAY, 12:15PM-2:15PM – Wyeth
SE-403 Dairy Housing
TUESDAY, 12:15PM-2:15PM – Peridot



Committee Meetings

**SE-404 Swine Housing**

WEDNESDAY, 7:00AM-8:00AM – Peridot

SE-405 Poultry Housing

WEDNESDAY, 8:00AM-9:15AM – Peridot

SE-412 Agricultural Waste Management

TUESDAY, 7:00PM-9:00PM – Plum Blossom A

SE-413 Animal Welfare & Care

TUESDAY, 8:00AM-9:15AM – Peridot

SE-414 Renewable Power Generation Committee

TUESDAY, 5:15PM-7:00PM – Obelisk B

SOIL AND WATER DIVISION

SW-01 Executive

SUNDAY 3:30PM-5:30PM – Batik A

SW-02 Steering

WEDNESDAY, 7:00PM-9:00PM – Edelweiss

SW-03 Standards

WEDNESDAY, 7:00AM-8:00AM – Inverness

SW-03/2 US TAG ISO/TC/23/SC18

WEDNESDAY, 8:00AM-9:15AM – Inverness

SW-04 Program

SUNDAY 3:30PM-5:30PM – Batik A

SW-05 Publications Review

MONDAY, 5:15PM-7:00PM – Inverness

SW-06 Paper Awards

TUESDAY, 7:00PM-9:00PM – Fleur de Lis B

SW-07 Nomenclature

MONDAY, 5:15PM-7:00PM – Batik A

SW-09 Forward Planning

SUNDAY 3:30PM-5:30PM – Batik A

SW-21 Hydrology Group

TUESDAY, 8:00AM-9:15AM – Fleur de Lis A

SW-21 Subcommittee

TUESDAY, 7:00PM-9:00PM – Batik B

SW-22 Erosion Control Group

MONDAY, 7:00PM-9:00PM – Dardanelles

SW-223 Erosion Control Research

MONDAY, 7:00PM-9:00PM – Dardanelles

SW-224 Pollution by Sediment

MONDAY, 7:00PM-9:00PM – Dardanelles

SW-225 Conservation Systems

MONDAY, 7:00PM-9:00PM – Dardanelles

SW-23 Drainage Group

TUESDAY, 5:15PM-7:00PM – Fleur de Lis A

SW-24 Irrigation Group

MONDAY, 6:30AM-7:30AM – Batik A

SW-24 Irrigation Group

WEDNESDAY, 8:00AM-9:15AM – Edelweiss

SW-241 Sprinkler Irrigation

TUESDAY, 7:00AM-8:00AM – Inverness

SW-242 Surface Irrigation

MONDAY, 5:15PM-7:00PM – Batik B

SW-243 Irrigation Water Supply & Conveyance

WEDNESDAY, 7:00AM-8:00AM – Edelweiss

SW-244 Irrigation Management

TUESDAY, 5:15PM-7:00PM – Laliq

SW-245 Microirrigation

TUESDAY, 8:00AM-9:15AM – Inverness

SW-246 Turf & Landscape Irrigation

MONDAY, 12:15PM-2:15PM – Batik A

SW-25 Streams, Reservoirs, and Wetlands Group

TUESDAY, 5:15PM-7:00PM – Fleur de Lis B

SW-251 Hydraulic Structures

TUESDAY, 5:15PM-7:00PM – Fleur de Lis B

SW-252 Geomorphology, Streambank Stability, and In-Stream Process

TUESDAY, 5:15PM-7:00PM – Fleur de Lis B

SW-253 Riparian Zones, Floodplains, and Wetlands

TUESDAY, 5:15PM-7:00PM – Fleur de Lis B

SW-26 Sustainable Land Resources

WEDNESDAY, 8:00AM-9:15AM – Fleur de Lis A

SW-262 Home Sewage Disposal

TBA

SW-263 Land Application of Waste

TUESDAY, 7:00PM-9:00PM – Fleur de Lis A

NON-DIVISIONAL TECHNICAL GROUPS

T-07 Liaison to Aquacultural Engineering Society

TBA

T-09 Environmental Quality Coordinating

MONDAY, 12:15PM-2:15PM – Peridot

T-11 Energy

MONDAY, 12:15PM-2:15PM – Steuben

T-12 Forest Engineering

MONDAY, 5:15PM-7:00PM – Wyeth

PROFESSIONAL

ENGINEERING INSTITUTE

PEI Professional Engineers Institute

MONDAY, 12:15PM-2:15PM – Inverness (being held jointly with ED-414)

OTHER COMMITTEES

AEM Ad Hoc ROPS Mtg

MONDAY, 7:30PM-9:00PM – Madrid

AETC Planning Committee – 2013

MONDAY, 5:30PM-8:00PM – Obelisk B

Calibration and Evaluation of Watershed**Models Subcommittee Mtg.**

TUESDAY, 7:00PM-9:00PM – Inverness

International Standards Training

Not Meeting

ISO/SC6 on ISO 5682

TUESDAY, 1:00PM-5:00PM – Madrid

ISO/SC6 work group 13

MONDAY, 7:30AM-8:30AM – Milan

Past Presidents' Roundtable

TUESDAY, 9:30AM-12:00PM – Sapphire

SDC for X564

MONDAY, 9:30AM-11:30AM – Milan

USDA Agricultural Research Service (ARS)

MONDAY, 12:15PM-2:15PM – Batik B

X623 SDC for landscape irrigation water use TBA**Young Professionals Community**

TUESDAY, 5:15PM-7:00PM – Wyeth

An invitation to join ASABE ...

... the Society for engineering in agricultural, food, and biological systems.

Who belongs to ASABE?

The American Society of Agricultural and Biological Engineers (ASABE), is a worldwide scientific and educational organization of members dedicated to the advancement of engineering applicable to agricultural, food, and biological systems, including the environment and natural resources, and to associated industries.



More than 9,000 ASABE members have careers in industry, government, research laboratories, classrooms, and as consultants. They work together through the Society to build and share their technical knowledge and skills.

ASABE is for people who need to make wise career decisions, who want to keep on top of emerging technological trends, and who believe they can make a difference.

Membership in ASABE will help you make better on-the-job decisions and solidify your credentials as a professional.

Why should I join?

Increase your professional status. Whether you attend meetings, present technical papers, help draft industry standards, publish in ASABE journals, or serve on any of nearly 180 committees, you'll get the professional recognition that you won't find anywhere else.

Networking and leadership opportunities. ASABE membership provides a chance to develop professional relationships with peers who share the same career interests and challenges.

ASABE Online Technical Library. Access the full-text of all ASABE technical publications online including journals, proceedings, monographs, technical papers, reference books and textbooks. The ASABE Online Technical Library contains over 100,000 pages of technical material. Access to the full text of the vast majority of ASABE standards is also a member benefit through the library. Annual membership includes Library credits for downloading up to five ASABE standards and 100 downloads for other documents types at no charge. Bundled credit packages are available at a discounted member rate if needed.

Contribute to your profession. Your participation means you will influence the future of engineering for

agricultural, food, and biological systems. ASABE represents your professional interests.

What's included in my membership?

Membership in ASABE sections. Local meetings in your geographic area provide opportunities for networking with others who share your technical interests.

Generous discounts on publications. ASABE standards, peer-reviewed journals, meetings, group insurance, even travel. Recover your dues with substantial member discounts on conferences and printed technical publications.

Awards and recognition. More than 20 awards recognizing outstanding achievements and advancements.

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Inside ASABE. A newsletter within the magazine which details activities, meetings, awards, and opinions. It will help you learn more about your colleagues in the professional network of ASABE.

Employment opportunities. Job openings are published monthly in *Resource* magazine and listed online at www.asabe.org through the ASABE Career Center. As a member, you join a network of thousands of professionals working in industry, academia, and government.

How much are dues?

Annual dues are:

- \$ 35 for graduate students,
- \$ 99 for members aged 34 and under,
- \$130 for members 35 to 64,
- \$ 55 for members 65 to 74,
- \$ 11 for members 75 and older,
- plus an additional one-time application fee of \$10.*

Membership benefits start upon payment of dues. Payments must be in U.S. currency. We can charge membership to your credit card. Canadian residents please inquire about joint membership with CSBE-SCGAB. Full-time undergraduate students, please inquire about student/preprofessional membership.



American Society of Agricultural and Biological Engineers Membership Application

Undergraduate students, please request a student membership application.

Return Application to:
ASABE Membership Department
2950 Niles Road
St. Joseph, MI 49085-9659, USA

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| I submit the following for I am a graduate student | | Membership Reinstatement | | <table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 15%;">PREFIX</td><td style="width: 15%;">Mr.</td><td style="width: 15%;">Ms.</td><td colspan="2" style="width: 55%;"></td></tr><tr><td></td><td>Dr.</td><td>Prof.</td><td colspan="2">Other: _____</td></tr></table> | | PREFIX | Mr. | Ms. | | | | Dr. | Prof. | Other: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PREFIX | Mr. | Ms. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Dr. | Prof. | Other: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FIRST NAME | | MIDDLE INITIAL | | LAST NAME | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TITLE | | BIRTHDATE | | Male Female | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PREVIOUSLY ASABE MEMBER from _____ to _____ | | STUDENT MEMBER from _____ to _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NAME OF EMPLOYER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EMPLOYER P.O. BOX OR STREET ADDRESS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CITY, STATE, OR PROVINCE | | | ZIP OR POSTAL CODE | | COUNTRY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BUSINESS PHONE | | EXTENSION | | FAX NUMBER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E-MAIL ADDRESS | | | MAIL PREFERENCE | | Employer Home | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HOME P.O. BOX OR STREET ADDRESS | | | | HOME PHONE: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CITY, STATE, OR PROVINCE | | ZIP OR POSTAL CODE | | COUNTRY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ENGINEERING DEGREE No Yes | | PROFESSIONAL REGISTRATION Professional Engineer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Haven't applied Other _____ Engineer Intern | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EDUCATIONAL BACKGROUND | | States/ Provinces | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Degree | University | Date of Graduation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | Branches of Engineering | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Registration Number | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CIRCLE ONE CLASSIFICATION IN EACH COLUMN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EMPLOYER TYPE | | TECHNICAL INTEREST | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1" style="width: 100%; border-collapse: collapse;"><tr><td colspan="2" style="text-align: center;"><u>Primary</u></td><td colspan="2" style="text-align: center;"><u>Secondary</u></td></tr><tr><td>AGB</td><td>Agri-business</td><td>AQ</td><td>Aquacultural Engineering</td><td>AQ</td><td></td></tr><tr><td>ASSN</td><td>Association</td><td>BE</td><td>Biological Engineering</td><td>BE</td><td></td></tr><tr><td>CONS</td><td>Consultant</td><td>ED</td><td>Education</td><td>ED</td><td></td></tr><tr><td>DIST</td><td>Distributor</td><td>ESH</td><td>Ergonomics, Safety & Health</td><td>ESH</td><td></td></tr><tr><td>EDUC</td><td>School</td><td>FE</td><td>Forest Engineering</td><td>FE</td><td></td></tr><tr><td>ESTA</td><td>Experiment station</td><td>FPE</td><td>Food & Process Engineering</td><td>FPE</td><td></td></tr><tr><td>FARM</td><td>Producer</td><td>IET</td><td>Information & Electrical Technologies</td><td>IET</td><td></td></tr><tr><td>GOVT</td><td>Government agency</td><td>PM</td><td>Power & Machinery</td><td>PM</td><td></td></tr><tr><td>LIB</td><td>Library</td><td>SE</td><td>Structures & Environment</td><td>SE</td><td></td></tr><tr><td>MFC</td><td>Manufacturer/components</td><td>SW</td><td>Soil & Water</td><td>SW</td><td></td></tr><tr><td>MFE</td><td>Manufacturer/equipment</td><td>Other</td><td>_____</td><td>Other</td><td></td></tr><tr><td>PROC</td><td>Processor</td><td></td><td></td><td></td><td></td></tr><tr><td>SUPL</td><td>Supplier</td><td></td><td></td><td></td><td></td></tr><tr><td>Other</td><td>_____</td><td></td><td></td><td></td><td></td></tr></table> | | | | <u>Primary</u> | | <u>Secondary</u> | | AGB | Agri-business | AQ | Aquacultural Engineering | AQ | | ASSN | Association | BE | Biological Engineering | BE | | CONS | Consultant | ED | Education | ED | | DIST | Distributor | ESH | Ergonomics, Safety & Health | ESH | | EDUC | School | FE | Forest Engineering | FE | | ESTA | Experiment station | FPE | Food & Process Engineering | FPE | | FARM | Producer | IET | Information & Electrical Technologies | IET | | GOVT | Government agency | PM | Power & Machinery | PM | | LIB | Library | SE | Structures & Environment | SE | | MFC | Manufacturer/components | SW | Soil & Water | SW | | MFE | Manufacturer/equipment | Other | _____ | Other | | PROC | Processor | | | | | SUPL | Supplier | | | | | Other | _____ | | | | |
| <u>Primary</u> | | <u>Secondary</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AGB | Agri-business | AQ | Aquacultural Engineering | AQ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASSN | Association | BE | Biological Engineering | BE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONS | Consultant | ED | Education | ED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DIST | Distributor | ESH | Ergonomics, Safety & Health | ESH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EDUC | School | FE | Forest Engineering | FE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ESTA | Experiment station | FPE | Food & Process Engineering | FPE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FARM | Producer | IET | Information & Electrical Technologies | IET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GOVT | Government agency | PM | Power & Machinery | PM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LIB | Library | SE | Structures & Environment | SE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MFC | Manufacturer/components | SW | Soil & Water | SW | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MFE | Manufacturer/equipment | Other | _____ | Other | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PROC | Processor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUPL | Supplier | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other | _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SIGNATURE | | I was referred to ASABE by: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MEMBER DUES: \$ 35 for graduate students \$ 99 for members 34 and under \$130 for members 35 to 64 \$ 55 for members 65-74 \$ 11 for members 75 and older | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Application Fee: <u>\$10.00</u> (This is a one time application fee in addition to dues.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Check Enclosed payable in US Funds to ASABE. Charge To: Visa MasterCard American Express Discover | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Card Issued To: (Please print) _____ Card Number _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Exp. Date _____ Security Code _____ Cardholder Signature _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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