The 2018 Robotics Competition Challenge

Cash prizes for top three finishers—1st $1,250; 2nd $1,000; 3rd $750

The 2018 competition will challenge teams to design and conduct a robot that will autonomously harvest “apples.” The apples (possibly represented by hanging ping-pong balls or holiday ornaments that would have the same diameter as a ping-pong ball) will be in three stages of condition. “Red” will be used to represent apples that are ready for harvesting. “Green” will be used to represent apples that are immature and should NOT be harvested, and “Blue” will represent apples that are rotten or diseased and should be removed from the tree and dropped on the ground.

Location: Riverfront Salon East

Monday, July 30th
Robotics Poster Session -12:30pm-1:30pm
Robotics Competition Testing - 4:00pm-6:00pm
Robotics Judges Orientation - 5:00p-6:00pm *Room 142B*

Tuesday, July 18th
Robotics Competition: Round 1 - 8:00am-10:00am
Robotics Competition: Round 2 - 10:30am-12:30pm
Robotics Competition: Round 3 - 2:00pm-4:00pm

ASABE Robotics 2018
Registered Participants
As of June 21, 2018

California Polytechnic State University—Green and Gold Mustangs
China Agricultural College—China Ag, Beginners
China Agricultural College—Dream
Clemson University—CARA
McGill University—Agrobots
McGill University—We are Groot
Purdue University—ABE Robotics
Purdue University—Havestiers
Texas A&M University—Texas A&M
University of Georgia—UGA Engineers
University of California—Ag-Bots
University of California Merced—Bobcats
University of Florida—RoboGators
University of Nebraska Lincoln—HuskerBots 1
University of Nebraska Lincoln—HuskerBots 2
University of Nebraska Lincoln—HuskerBots 3
University of Wisconsin River Falls—Falcon Robotics
Zhejiang University—ZJU Team 1
Zhejiang University—ZJU Team 2
WOMEN IN ASABE SOCIAL
Monday, July 30 – 4:30PM-5:30PM
LOCATION: Grand Ballroom Pre-Function Room
The Women in ASABE Social is an informal mixer open to all female ASABE members. Hosted by Past Presidents Mary Leigh Wolfe and Sonia Maassel Jacobsen, this event will provide a unique opportunity to meet, socialize and network with other women from across ASABE. Refreshments will be served. Registration is required but there is no charge for this event.
COST: Preregistration is required

ASSOCIATION OF AGRICULTURAL FOOD AND BIOLOGICAL ENGINEERS OF INDIAN ORIGIN (AABFEIO) BUSINESS MEETING AND DINNER
Monday, July 30 – 5:30PM-9:30PM
LOCATION: 140E
The 2018 Annual Business Meeting of AABFEIO will be held from 5:30PM to 6:30PM on Monday, July 30 at the ASABE conference venue. Following the meeting, the association will have its annual dinner from 7:00PM to 9:30PM. Dinner location will be announced. Tickets for students are discounted.
COST: $30.00 AABFEIO ASABE Member & Family
$20.00 Student Member
$35.00 Non-AABFEIO ASABE Member

FELLOWS INDUCTION CEREMONY AND RECEPTION
Monday, July 30 – 6:00PM-8:00PM
LOCATION: Grand Ballroom B
All registrants are invited to this special recognition ceremony and reception honoring the 2017 ASABE Fellows. ASABE defines a Fellow as a member of unusual professional distinction, with outstanding and extraordinary qualifications and experience in, or related to, the field of agricultural, food, or biological systems engineering.

The 2018 recipients are:
Devendra M. Amatya, P.E.    Dirk Maier
Paul Ayers, P.E.            Ronaldo G. Maghirang
David R. Bohnhoff, P.E.    Steven K. Mickelson
Michael D. Boyette, P.E.    Rabi H. Mohtar
Dean E. Eisenhauer, P.E.    Thomas Trout, P.E.
Clifford Fedler, P.E.        Chenghai Yang
Lawrence D. Gaultey

GRADUATE STUDENT SOCIAL
Monday, July 30 – 7:30PM-9:30PM
LOCATION: 140G
This event will provide an informal setting for graduate students from all over the world to meet up, socialize and make connections with each other. It’s a great chance to get to know the people you’ll be seeing in the hallways, sessions, and events throughout the week! This is a YPC sponsored event, open to all graduate students.
COST: Preregistration is required

FOUNTAIN WARS COMPETITION
Monday, July 30
1:00PM-8:00PM
Cobo Square
TEXAS A&M FORMER STUDENTS AND FRIENDS’ SOCIAL
Monday, July 30 – 8:00PM-10:00PM
LOCATION: 140F
The Biological and Agricultural Engineering Department invites you to join us in a reception for all Aggies and their supporters. We will meet at 8:00 pm for complimentary appetizers and a cash bar. Gather with us to enjoy an update on the department!

UNIVERSITY OF ILLINOIS ALUMNI & FRIENDS RECEPTION
Monday, July 30 – 8:00PM-10:00PM
LOCATION: 141
Alumni and friends of the University of Illinois are invited to attend. We will feature a hosted bar and snacks. There is no fee for the event, but registration is appreciated. Please stop by to visit and hear what is new with the Orange and Blue I-L-L-I-N-I!
COST: Preregistration is required

BSE - VIRGINIA TECH
Monday, July 30 – 8:00PM-10:00PM
Location: 142A
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 happenings in the department and at Virginia Tech!

INTERNATIONAL BREAKFAST
Tuesday, July 31 – 7:00AM-8:00AM
LOCATION: 140E
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 place to meet new people and begin long and fruitful working relationships. The speaker for this International Breakfast will be the 2018 recipient of ASABE’s prestigious Kishida Award.
COST: $15.00

PENN STATE ALUMNI AND FRIENDS BREAKFAST
Tuesday, July 31 – 7:00AM-8:30AM
LOCATION: 142B
This event is open to all alumni, student, 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, and students and to get updated on the current happenings in the ABE Department. All guests are eligible to win door prizes.
COST: $14.00

PURDUE ALUMNI & FRIENDS BREAKFAST
Tuesday, July 31 – 7:00AM-8:00AM
LOCATION: 141
Purdue University’s Dean of Agriculture, the Agricultural & Biological Engineering Department, and the Engineering Alumni Association invite all alumni and friends to their breakfast. Preregistration is required.
COST: $5.00

LOCAL PRODUCTION AGRICULTURE 101 - INVITED SPEAKERS
Tuesday, July 31 – 7:30AM-9:00AM
LOCATION: 250C
Moderator: Rebecca Kallal, Evansville, WI
This session will present Recovery Park Farms, a local business and social endeavor. This farm is an example of how urban agriculture has taken root in the city of Detroit. The Recovery Park organization believes that “by growing vibrant, healthy foods in blighted Detroit neighborhoods we can create quality jobs, accessible for people with barriers to traditional employment.” Attend this session to learn more about the challenges and rewards that have resulted from this urban farming experiment. Speakers will be from Recovery Park Farms
COST: $14.00
Thank You

to our financial donors

June 15, 2017, to June 15, 2018

Individual donors, $500+: Janie Berry • Thomas A. Bon • Heber D. Boulard • William H. Brown • Paul F. Burkner • Sino-US Food and Agricultural Innovation Center • Manjeeet S. Chinnan • Stuart Cooper • John S. Cundiff • John A. Dahlseng • Sherwood S. DeForest • David Diebold • Darrin J. Drollinger • Paul N. Exstrom • Richard S. Gates • James R. Gilley • Robert J. Gustafson • Joseph P. Haner • Dennis R. Heldman • Donald L. Henderson • Michael C. Hirschi • Roger M. Hoy • Charles R. Hurburgh, Jr • Kevin A. Jarrin • Anthony H. Kajiwaki • Harold M. Keener • James K. Koelliker • Sonia M. Maassel Jacobson • Derrol L. Martin • R. Vance Morey • Gloria Nye • David B. Palmer • Dana O. Porter • David S. Ross • Maury V. Salz • Sylvia L. Schonauer • R. Paul Singh • Ajit K. Srivastava • Juming Tang • Daniel L. Thomas • Travis B. Unterzuber • Kenneth L. Von Bargen • Curtis L. Weller

$500-$499: David B. Beasley • Gary A. and Barbara Clark • Robert E. Graves • Maynard M. Herron • Edwin A. Heys • Dolores C. Landeck • Allen R. Rider • William F. Ritter • Danny H. Rogers • Robert L. Schafer • Ronald T. Schuler • Stephen W. Searcy • Mary Leigh Wolfe

$150-$249: Page L. Ballinger • Christopher L. Butts • Herbert W. Colwill • Donn G. DeCoursey • Michael J. Delviche • Dean E. Eisenhauer • Ronald L. Elliott • Cady R. Engler • Gladriz B. Fasina • John R. Gees • Paul H. Heinemann • Terry A. Howell, Sr • Larry F. Huggins • Shervin Lahzdorf • Ramfu Lu • Scott Mueller • R. Nolan Clark • D. Raj Raman • David J. Sandfort • Litha Sivanandan • Mark W. Sjogren • Donaldson S. Taylor • Thomas R. Way • Jerry L. Wilke • James H. Young

$100-$149: Carmen T. Agouridis • Robert M. Alverson • Senthil Asseng • Sreekala G. Bajwa • James C. Barker • Richard L. Bengtson • Douglas L. Bosworth • Anand J. Both • Robert H. Brock • Mark E. Casada • William A. Cook • Robert A. Easter • Donald C. Erbach • Robert O. Evans • Delbert W. Fitzsimmons • Carol L. Flautt • Jane R. Frankenberg • Larry D. Gautney • Lawrence H. Gay • G. LeRoy Hahn • Steven C. Harris • DeLynn R. Hay • Glen H. Hetzel • James R. Jensen • Richard W. Job • Larry R. Johnson • Robert C. Laphler, III • David R. MacKenzie • Mary E. Maley • Ronald L. Marlow • Jeffrey D. Miller • Larry F. Moore • David L. Murray • Douglas G. Overhults • Victor W. E. Payne • Fred A. Payne • Roscoe L. Pershing • Virendra M. Puri • Michael P. Sama • Keith E. Saxton • Norman R. Scott • Larry J. Segerlin • John Bruce Solie • James L. Steele • Earl C. Stegman • Richard J. Straub • Arthur A. Teixeira • K. Michael Thurow • Larry P. Walker • William J. Zacharias • Qin Zhang • Mark D. Zietke

Corporate ASABE Foundation Donors:
K.K. BARNES STUDENT PAPER COMPETITION
Tuesday, July 31 – 8:00AM-9:00AM
LOCATION: 359
The KK Barnes Student Paper Award Competition comprises of an undergraduate student paper competition and an oral competition, which is held at the ASABE Annual International meeting. Winners will be recognized at the AEM/ASABE Student Awards Breakfast on Wednesday.

ASABE ROBOTICS STUDENT DESIGN COMPETITION
Tuesday, July 31 – 8:00AM-4:00PM
Location: Riverfront Salon East
Robotics Competition: Round 1
Tuesday, July 31 – 8:00AM-10:00AM
Robotics Competition: Round 2
Tuesday, July 31 – 10:30AM-12:30PM
Robotics Competition: Round 3
Tuesday, July 31 – 2:00PM-4:00PM

T#3
COME HUNGRY, LEAVE HAPPY – EASTERN MARKET STROLLING BRUNCH TOUR
Tuesday, July 31 – 9:00AM-12:30PM
LOCATION: Tour departs water entrance of Cobo Center on Atwater Street
Stroll the Eastern Market District which includes one of the oldest continuously operating Farmer’s Markets in the country. Learn fun facts and history of the area while visiting the produce sheds and specialty stores that feature unique products. Hear interesting stories and find out about community gardens, food access, small business development and food manufacturing. Visit with the shop owners and farmers and learn about the continual revitalization of this area while eating your way through the Market District. Go behind the scenes and sample various foods that include locally produced pizza, snacks, produce, sweets, specialty nuts, cheeses and smoked meats, spinach pie, hummus, smoothies, and more!
Includes: Transportation, guide, admissions and generous food samples.
COST: $45.00

Session #203
BEST PRACTICES IN UNDERGRADUATE PROGRAMMING – RAP SESSION
Tuesday, July 31 – 9:30AM-12:00PM
Location: 140D
Moderator: D Raj Raman, Iowa State University, Ames, IA
This session is to allow instructors and program leaders in ASABE-umbrella programs to hear about best practices at other programs, and to brainstorm solutions to issues facing all programs.

<table>
<thead>
<tr>
<th>Time</th>
<th>Paper #</th>
<th>Title/Author</th>
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<tbody>
<tr>
<td>09:30AM</td>
<td>1801005</td>
<td>A sophomore level Introduction to Engineering Design Course</td>
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<tr>
<td></td>
<td></td>
<td>Norm Muzzy, Iowa State University, Ames, IA United States (Presenter: Norm Muzzy) (Norman Muzzy, Michelle Soupir, Steven Hoff)</td>
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<tr>
<td>09:50AM</td>
<td>1800558</td>
<td>Utilizing the MUSIC Model of Motivation in Intro to BSE to Increase Students Belonging &amp; Identification</td>
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<td>Qualia Ketchum, Virginia Tech, Blacksburg, VA United States (Presenter: Qualia Ketchum) (Qualla Ketchum)</td>
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<tr>
<td>10:05AM</td>
<td>1801409</td>
<td>Inclination of High School Pupils to Studying Agricultural, Food, Biosystems and Bionic Areas of Engineering in Nigeria</td>
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<td>Omotayo Osadipe, Federal University of Technology, Akure, Ondo Nigeria (Presenter: Omotayo Osadipe) (Omotayo Osadipe)</td>
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<tr>
<td>10:20AM</td>
<td>BREAK</td>
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<tr>
<td>10:45AM</td>
<td>1800880</td>
<td>Using strengths-based leadership concepts to enhance the performance of capstone teams</td>
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<td>Gretchen Mosher, Iowa State University, Ames, Iowa United States (Presenter: Gretchen Mosher) (Steven D. Bell)</td>
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<tr>
<td>11:00AM</td>
<td>1800717</td>
<td>Development of ISOBUS Universal Terminal and Client ECUs for Agricultural Machinery</td>
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<td>Enkhbaatar Tumenjargal, Chonbuk National University, Jeonju, Jeollabuk-du Korea, South (Presenter: Enkhbaatar Tumenjargal) (Enkhbaatar Tumenjargal, Sodbileg Tsogt-Ochir, Munkhtamir Oyumaa, Enkhbat Batbayar, Shinebayar Munkhbayar, Chong Kil To, Woon Chul Ham)</td>
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GUNLOGSON ENVIRONMENTAL DESIGN STUDENT COMPETITION
Tuesday, July 31 – 9:30AM-10:30AM
LOCATION: 359
The Gunlogson Environmental Design Student Competition comprises of a written design report and an oral competition, which is held at the ASABE Annual International Meeting. Winners will be recognized at the AEM/ASABE Student Awards Breakfast on Wednesday.
Session #233

INNOVATIVE RESEARCH AND CHALLENGES IN FOOD ENGINEERING – INVITED SPEAKERS / PANEL DISCUSSION

Tuesday, July 31 – 9:30PM-12:00PM
Location: Grand Ballroom B
Sponsored by PRS Revitalization Task Force

Moderator(s): Shaojin Wang, Northwest A&F University, Yangling, Shaanxi China
Litha Sivanandan, West Virginia University, Morgantown, WV

Speakers include the Recipients of the 2018 ASABE International Food Engineering Award and the 2018 ASABE Sukup Global Food Security award as well as leading engineers. Speakers will discuss their experiences related to challenges faced by those in the Food Engineering profession, challenges in educating engineers entering the food engineering profession, opportunities for engineering solutions to food safety and security, introduction of the structure, organization and plan of the PRS technical sessions. The session will conclude with an opportunity for food engineering professionals to discuss additional challenges and opportunities.

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<tr>
<th>Time</th>
<th>Paper #</th>
<th>Title/Author</th>
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<tbody>
<tr>
<td>09:30AM</td>
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<td>Introduction of the Session and Speakers</td>
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<tr>
<td>09:30AM</td>
<td>1801892</td>
<td>Sustainability Issues of Food Engineering in the Context of Food Security</td>
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<td>Dr. G S Vijaya Raghavan, McGill University, Ste-Anne-de-Bellevue, Quebec Canada</td>
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<td>10:05AM</td>
<td>1801893</td>
<td>To Feed the Future, We Must First Seed the Future</td>
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<td>Dr. Manjit Misra, Iowa State University, Ames, Iowa</td>
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<td>10:35AM</td>
<td>1801894</td>
<td>Process Design for an Efficient Food Supply Chain</td>
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<td>Dr. Dennis Heldman, Ohio State University, Columbus, Ohio</td>
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<td>11:00AM</td>
<td>1801895</td>
<td>Introduction of the Sino-US Food and Agriculture Innovation Center</td>
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<td>Dr. Zhongli Pan, USDA ARS WRRC Processed Foods Research, Albany, California</td>
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<td>11:10AM</td>
<td>1801896</td>
<td>ASABE’s PRS Community: Strengths and Opportunities</td>
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<td>Dr. Deepak Keshwani, University of Nebraska-Lincoln, Lincoln, Nebraska</td>
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<td>11:30AM</td>
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<td>PANEL DISCUSSION</td>
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ASABE Business Meeting
Tuesday, July 31 – 1:00PM-2:00PM
LOCATION: 331C

Stephen Searcy, P.E.
ASABE President-Elect
Professor and Department Head
Texas A&M University

Maury V. Salz
ASABE President-Elect
President
CLAAS Omaha Inc.

In his role as head of Texas A&M’s Department of Biological and Agricultural Engineering, Searcy provides statewide administrative support and guidance for a faculty of 37 as they address the Land Grant University missions of teaching, research, and extension to serve the public good. His specific responsibilities include disciplinary leadership at the state, national, and international levels; establishing and reporting on prioritized goals for the department; assembling a high-performing, diverse, and inclusive faculty and staff; and communicating the contributions of the department to stakeholders and the public.


Salz is president of CLAAS Omaha, Inc., manufacturer of LEXION combines and headers for North America, where he is responsible for production operations, including research and development, purchasing, quality, and logistics and manufacturing. Salz has worked for CLAAS for 17 years, serving as president since 2007. He holds seven patents relating to tractor drive systems and cotton harvesting and combine harvesting products.

Salz grew up on a family farm in northwest Iowa and continues to participate with his family in corn and soybean farming operations. He received a B.S. in Agricultural Engineering from Iowa State University and an MBA from St. Ambrose University in Davenport, Iowa.

Currently a member of E-05/3 (Digital Strategy) and E-06 (Foundation Liaison), Salz has served on the Board of Trustees (2009-2011), liaising with the Standards Council during that time, and on P-125 (AEM Student Trophies Competition) from 2003 to 2015. His additional Society activities include inaugurating and leading the Values Growth ad hoc committee. Salz is a 19-year member of the Society.
AGCO NATIONAL STUDENT DESIGN COMPETITION
Tuesday, July 31 – 11:00AM-12:00PM
LOCATION: 359
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 AEM/ASABE Student Awards Breakfast on Wednesday.

E#16
GRADUATE STUDENT PROFESSIONAL DEVELOPMENT ROUNDTABLE
Tuesday, July 31 – 12:00PM-2:00PM
LOCATION: 330B
An invited panel of esteemed members of our society will share their academic and professional experiences with current graduate students. This is not a technical session but instead a time to ask questions and gain advice from others who have been there before you. This is a YPC sponsored event, open to all graduate students.
COST: $15.00

QUARTER SCALE TRACTOR STUDENT DESIGN COMPETITION
Tuesday, July 31 – 12:30PM-2:30PM
Location: 359
Top finishing teams in the Team Presentation category from this year’s competition will give their winning presentations during this session. This is an excellent opportunity for students to see what a top presentation looks like and use that knowledge to improve their own presentation in future years. There will be ample time for Q&A, so come ready to learn.

ASABE BUSINESS MEETING
Tuesday July 31 – 1:00PM-2:00PM
LOCATION: 331C

ASABE FOUNDATION BOARD OF TRUSTEES
Tuesday, July 31 – 2:00PM-5:00PM
LOCATION: 358

GRAD SCHOOL 101: A PANEL DISCUSSION FOR UNDERGRADUATES
Tuesday, July 18 – 2:00PM-4:00PM
LOCATION: 357
Thinking about graduate school? Wondering what it’s all about or if it’s the right place for you? A panel of current graduate students from different backgrounds, programs, and experiences will share their journey as well as answer questions on everything from the application process to every day grad life. This is a YPC sponsored event.

Session #238
TRANSFORMATIONAL SOLUTIONS TO SUSTAINABLE AGRICULTURAL DEVELOPMENT IN AFRICA – PANEL DISCUSSION
Tuesday, July 31 – 2:30PM-5:00PM
Sponsored by African Network (ANGASABE), Indian Community (AABFEIO), Chinese Community (AOCABFE), E-2050,
LOCATION: Grand Ballroom B
Moderator: Nourredine Abdoulmoumine, University of Tennessee, Knoxville, TN
Countries in Africa have one of the largest numbers of smallholder farmers who still utilize low input and low level technologies in their farming operations. Farmer sizes are characteristically small (2 ha on average) with lower productivity which is lagging when considering the soaring demographics. If Africa is to try to catch up in agricultural development and feed its people, incremental steps to improve productivity might not be sufficient. How African countries can use new transformational technologies to address problems at the nexus of water, energy, plant and animal systems to promote sustainable agricultural development? This panel discussion aims to kick-start a conversation on futuristic, transformational aspects of agriculture development in Africa. The digital agriculture is here and critically influencing agriculture in a major way. This invited session is organized for the second consecutive year by the African Network in collaboration with the Chinese and Indian communities. It aims to provide an opportunity for African, Chinese and Indian ASABE members to share experiences and discover opportunities to foster collaboration between the three communities with the goal of improving the agricultural productivity of smallholders in these regions through the implementation of transformational technologies.
Panelist:
Dr. Kifle Gebremedhin, Cornell University (representing African Network)
Dr. Xiongkuui He, China Agricultural University (representing Chinese community)
Dr. Vijaya Raghavan, McGill University (representing Indian community)
Session #260
MANURE NUTRIENTS, THE ENVIRONMENT, AND THE GREAT LAKES – INVITED SPEAKERS
Tuesday, July 31 – 2:30PM-5:00PM
LOCATION: 353
Moderator: Teng Teeh Lim, University of Missouri, Columbia, MO; Rick Koelsch, University of Nebraska-Lincoln, Lincoln, NE

2:30PM 1801886 Introduction
Michigan Agriculture Environmental Assurance Program
Joe Kelpinski, Michigan Dept of Agriculture & Rural Dev, Lansing, Michigan United States

2:35PM 1801887 Winter Manure Applications: Management Practices and Environmental Impacts
Steven Safferman/Jason Smith, Michigan State University Extension, Alma, Michigan United States

3:15PM 1801888 Regional Runoff Risk Decision Support Tools
Shelby Burlew/Enrica Rogers, Michigan State University Extension, Hillsdale, Michigan United States

3:35PM 1801889 Manure Sidedress of Corn Research
Glen Arnold, Ohio State University, Findlay, Ohio United States

3:55PM 1801890 Edge of Field Monitoring Research in Ohio
Lindsay Pease, Ohio State University, Columbus, Ohio United States

4:15PM 1801891 Ohio Manure and Fertilizer Regulations Pertaining to Lake Erie Basin
Glen Arnold, Ohio State University Extension, Findlay, Ohio United States

4:35PM PANEL DISCUSSION: Opportunities for Research/Extension to Improve Manure Nutrient Use, and Correlating Manure with Soil Properties and Environmental Benefits

Session #265
FLOOD VS. DROUGHT: WATER AVAILABILITY AND WATERSHED MANAGEMENT
Tuesday, July 31 – 2:30PM-5:00PM
LOCATION: 336
Sponsored by NRES-25, NRES-22
Moderator: Sherry Hunt, USDA ARS, Stillwater, OK

Global climate is changing across the U.S., which is evident by the extreme and wide range of events occurring. The objective of this session is to discuss the extreme climatologic events and their effect on agriculture, engineering practices, human health, and/or planning and adapting practices for water availability and watershed management across the U.S.

2:30PM 1801885 Introduction

2:35PM 1800303 Performance Evaluation of NRCS-Assisted Watershed Dams in Texas
R Brian Wenberg, USDA Natural Resources Conservation Serv, Temple, Texas United States (Presenter: R Brian Wenberg) (R Brian Wenberg)

3:05PM 1800835 Do Uncertain Hydrologic Simulations Cause Variability in Decisions Arrived?
Vamsi Krishna Vema, Indian Institute of Technology Madras, Chennai, Tamil Nadu India (Presenter: Indrajeet Chaube) (Vamsi Krishna Vema, KP Sudheer, Indrajeet Chaube)

3:35PM 1800909 Low-flow seasonality and effects on water availability along the river network
Ligia Serrano Pruski, Federal University of Vicosa, Vicos, MG Brazil (Presenter: Ligia de Oliveira Serrano Pruski) (Fernando Falco Pruski, Alisson Carraro Borges, Rayssa Balieiro Ribeiro)

3:50PM BREAK

4:00PM 1801897 Water Availability in the Mid-South US: Challenges and Opportunities
Michele Reba, USDA-ARS, Jonesboro, AR United States (Presenter: Michele Reba) (Michele Reba, Joseph H. Massey, Arlene Adviento-Borbe)

4:30PM 1801344 Analysis of PDSI and Vegetation Condition Index (VCI) and Their Links to Streamflow
Devon Bandad, Kansas State University, Manhattan, Kansas United States (Presenter: Devon Ali Bandad) (Vahid Rahmani)

4:45PM 1801141 Spatial and temporal pattern analysis of drought characteristics in India during the past century
Sarmistha Singh, Purdue University, West Lafayette, Indiana United States (Presenter: Sarmistha Singh) (Sarmistha Singh)
Session #267
PAFS DISTINGUISHED LECTURE SERIES – INVITED SPEAKERS
Tuesday, July 31 – 2:30PM-5:00PM
Location: 355
Sponsored by PAFS
Moderator: John Linhoss, Mississippi State University, Mississippi State, MS

This session will host a series of invited presentations from Major Award Recipients, Fellow Inductees, and Superior Paper Award Winners from 2016. The format for this series differs from general technical session, providing invited speakers with the flexibility to deliver a presentation which highlights their views and vision of the past, present and/or future on a subject area relative to the PAFS Community and highlight the research and development of award winning research published with the Transactions of ASABE and Applied Engineering in Agriculture.

Time | Paper # | Title/Author
--- | --- | ---
2:30PM | Introduction | Ag Eng. Consulting – Where we have been and where we might be going
2:35PM | 1801911 | Jerry Wille, Ames, IA United States (Presenter: Jerry Wille) (Jerry Wille)
2:35PM | 1801912 | Yang Zhao, Mississippi State, MS United States (Presenter: Yang Zhao) (Yang Zhao)
3:30PM | BREAK
3:35PM | Smart Agriculture Research Programs and Current Status at Zhejiang University
3:50PM | Precision Profile Spraying Technique Based on Variable Air Volume and Chemical Flow Rate for Orchard in CCAT
4:00PM | Progress in Discipline Construction and Research of Agricultural Engineering at Jiangsu University

Session #269
AOCABFE & NERCITA CHINA EXCHANGE FORUM – INVITED SPEAKERS
Tuesday, July 31 – 2:30PM-5:00PM
Location: 356
Moderator: Hong Li, University of Delaware, Newark, DE

Promoting and facilitating academic and research exchanges among scholars from China and other countries. Invited speakers will share their views and perspectives on international exchange in food, renewable and bio-energy, and climate change and environment protection.

2:30PM | Smart Agriculture Research Programs and Current Status at Zhejiang University
2:50PM | Precision Profile Spraying Technique Based on Variable Air Volume and Chemical Flow Rate for Orchard in CCAT
3:10PM | Progress in Discipline Construction and Research of Agricultural Engineering at Jiangsu University

T#7
DETROIT CITY DISTILLERY TOUR & TASTING
Tuesday, July 31 – 3:30PM- 6:00PM
LOCATION: Tour departs water entrance of Cobo Center on Atwater Street

Detroit’s brewing legacy started in the 1930’s with Goebel Brewing Company and Stroh’s Brewery located across the street from one another between Downtown Detroit and Eastern Market. Stroh’s acquired Goebel’s in the 1960s and continues their long history of alcohol production. Detroit City Distillery creates small batch artisanal whiskey, gin and vodka using the finest local ingredients sourced from farms near the distillery. The result is a drink of distinction made for the revolutionaries rewriting the history of a great American city. Participants will learn about the art and science of the distillery process from grain to glass. Hear the history and taste new and aging whiskey (and a range of other spirits) under development in the rack house. Participants must be 21 or older. Includes: Transportation, Tour and Tasting

COST: $28.00

AFRICAN NETWORK GROUP OF THE ASABE ANNUAL BUSINESS MEETING
Tuesday, July 31 – 4:00PM-6:00PM
LOCATION: 354

Annual business meeting to receive and evaluate feedback on past year’s milestones and set new goals in alignment with the Society’s objectives. Old and new members as well as interested parties are cordially welcome to contribute and network.
YPC GRADUATE STUDENT INVOLVEMENT COMMITTEE MEETING
Tuesday, July 31 – 4:00PM-5:00PM
LOCATION: 357
Have ideas, thoughts, or concerns about AIM’s events for graduate students? Looking to get more involved with YPC and ASABE? We would love to have you! We will be discussing the committee’s purpose & goals, reviewing this year’s events as well as looking to what we would like to have at the 2019 AIM. This is a YPC sponsored event, open to all grad students.

INTERNATIONAL PREPROFESSIONAL COMMUNITY (IPC) BUSINESS MEETING – PART 2
Tuesday, July 31 – 4:00PM-5:00PM
LOCATION: 258
This business meeting will briefly review the results of this year’s annual meeting and will elect new officers for the 2018-2019 year. These new officers will be introduced at the Wednesday Awards Banquet at 12:30PM.

E#17
ASSOCIATION OF OVERSEAS CHINESE AGRICULTURAL, BIOLOGICAL, AND FOOD ENGINEERS (AOCABFE)
ANNUAL BUSINESS MEETING
Tuesday, July 31 – 5:00PM-9:30PM
LOCATION: 356
The AOCABFE Annual Business Meeting will be held from 5pm to 6pm at the ASABE conference venue. The meeting will review AOCABFE activities in 2017-2018 and discuss plans of action for 2018-2019. The award Banquet will follow the business meeting at an off-site restaurant from 6:30pm-9:30pm. The meeting and the banquet provides a great opportunity for socializing with peers. All ASABE meeting attendees with Chinese origin or with international collaboration interests are invited.

COST: $65.00 Member
$20.00 Student Member

Session #239
TECHNICAL TRENDS AND CAREER OPPORTUNITIES IN THE U.S. AND KOREA – INVITED SPEAKERS
Tuesday, July 31 – 5:00PM-7:00PM
Sponsored by AKABFE
Location: 140F
Moderator: Young K. Chang, Dalhousie University, Truro, NS Canada
This session is intended to facilitate communication between Korean and U.S. professionals and students in the field of agricultural, biological and food engineering. Discussion will center on “Technical Trends and Career Opportunities in the U.S. and Korea,” and the invited speakers will address a wide range of topics covering trends both past and present as well as directions the profession will likely take in the future. Speakers will also offer practical advice on pursuing professional careers.

5:00PM Introduction
5:05PM Recent Trends of Agricultural Machinery and Biosystems Engineering in Korea
Jong Hoon Chung, Seoul National University, Korea
5:20PM The Challenge of Agriculture on 4th Industrial Revolution
Kyo Suh, Seoul National University, Korea
5:25PM Research Spotlights (Student Competition)

YOUNG PROFESSIONALS COMMUNITY BUSINESS MEETING
Tuesday, July 31 – 5:15PM-7:00PM
LOCATION: 357
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 YPC’ers.

E#18
“FRIENDS OF AUB” DINNER
Tuesday, July 31 – 6:00PM-8:00PM
LOCATION: Off-site
You are cordially invited to join “Friends of AUB” Dinner that is organized by the Faculty of Agricultural and Food Sciences (FAFS) at the American University of Beirut (AUB) on Tuesday, July 31 from 6PM to 8PM at “La Pita Fresh” (5056 Cass Ave, Detroit, MI 48202, USA). RSVP by June 10 to nn14@aub.edu.lb

COST: $25.00
E#19

ASABE FOUNDATION DINNER –
A RIVERBOAT DINNER CRUISE ON THE DETROIT PRINCESS
Tuesday, July 31 – 6:00PM-9:30PM
LOCATION: The Detroit Princess is docked along the Riverwalk near Cobo Center. We will greet you at the boarding area, and after boarding, go to Deck 3 for our event.

A unique and memorable highlight of a visit to Detroit is to cruise on the Detroit Princess Riverboat. Deck 3 on this fully re-fitted 5 story riverboat is where the ASABE Foundation supporters will enjoy a celebratory dinner during AIM. The deck has enclosed climate controlled space to accommodate a seated dinner, and also has access to outdoor viewing areas. Enjoy dinner and the featured speaker in an elegant dining room with chandeliers and mahogany trim, and of course, spectacular views of the Detroit skyline and the city of Windsor, Ontario, Canada across the river. Victoria Pebbles, Program Director for Great Lakes Commission, will be the guest speaker. She will discuss the threats and challenges facing our water resources, specifically, the Great Lakes, and how the Great Lakes Restoration Initiative can affect positive change for the future.

Includes: Exclusive use of Deck 3 on the Detroit Princess, with services of Captain and Crew for a 1 1/2 hour dinner cruise with full buffet dinner, drink tickets, auction activities, all gratuities and taxes, and the featured speaker.

COST: $130.00 per person-Professionals, $100.00 per person-Students

E#20

ASSOCIATION OF KOREAN AGRICULTURAL, BIOLOGICAL, AND FOOD ENGINEERS (AKABFE) BUSINESS MEETING
Tuesday, July 31 – 7:00PM-7:30PM
LOCATION: 140E
Annual business meeting sponsored by the Association of Korean Agricultural, Biological, and Food Engineers (AKABFE)

COST: $30.00 Member

E#21

AEM/ASABE STUDENT AWARDS BREAKFAST
Wednesday, August 1 – 7:30AM-9:00AM
LOCATION: Grand Ballroom AB
The Association of Equipment Manufacturers (AEM) and the American Society of Agricultural and Biological Engineers (ASABE) invites all of the ASABE student members to attend the AEM/ASABE Student Awards Breakfast. This event is a wonderful time to learn more about the professional side of the world as you dine. The 2018 awards to be presented are: Ethics Video; Ethics Essay; G.B. Gunlogson Student Environmental Design Open Competition; G.B. Gunlogson Student Environmental Design; Fountain Wars Competition; Boyd-Scott Graduate Research Award; AGCO National Student Design Competition; KK Barnes Student Paper Awards; ASABE Robotics Competition.

Reservations must be made on or before Tuesday, July 31. Breakfast reservations will be confirmed in your ASABE registration packet. All annual meeting attendees are encouraged to attend.

COST: $5.00 Students
$20.00 All Others
Session #329
LARGE SCALE GRAIN DRYING, STORAGE AND AERATION SYSTEMS – INVITED SPEAKERS
Wednesday, August 1 – 7:30AM-10:00AM
LOCATION: 338
Moderator: John Lawrence, Kansas State University, Manhattan, KS

In USA, billions of bushels of grains are handled during harvest season particularly for drying and storage. When we handle these grains in large scale, there are a lot of issues in grain handling such as quality, moisture content, amount of fines and foreign materials, hotspots, moisture migration, mycotoxins, insect problems. In terms of grain drying, there are issues such as uniformity, over-drying, energy consumption, quality and so forth. How to dry these harvest high moisture to safe storage moisture without affecting the quality. Similar how to manage the grain after drying using aeration systems without affecting the quality. In this session, we will cover various topics related to large scale system in drying, storage and aeration system for grains such as corn, rice, soybean and so on.

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<tr>
<th>Time</th>
<th>Paper #</th>
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<tr>
<td>07:30AM</td>
<td>07:35AM</td>
<td>Introduction</td>
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<tr>
<td>07:35AM</td>
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<td>Innovative Rice Drying Techniques</td>
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<td>Greg Baltz, Farmer &amp; Producer</td>
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<td>08:00AM</td>
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<td>Large Scale Grain Drying Systems for Multiple Commodities including Corn, Rice, Soybeans and Wheat</td>
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<td>Ricardo Reggeti, Mega Dryers Co.</td>
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<td>08:25AM</td>
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<td>Challenges in Commercial Peanut Drying, Storage and Handling</td>
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<td>Chris Butts, USDA ARS National Peanut Research Lab</td>
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<td>08:50AM</td>
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<td>Maintaining Stored Grain Quality in Large Scale Grain Storage Systems</td>
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<td>Safe-Grain/Maxi-Tronic, Inc.</td>
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<td>09:15AM</td>
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<td>Safe Grain Storage</td>
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<td>Charles Sukup, Sukup Manufacturing Co.</td>
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<td>09:40AM</td>
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<td>Discussion</td>
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ETHICS IN ENGINEERING ESSAY AND VIDEO PRESENTATION
Wednesday, August 1 – 9:30AM-12:00PM
LOCATION: 354
Sponsoring Committee is P-128: Engineering Ethics Competition

Video contest: Three winners will be selected to receive prize money of $500, $300, and $200 for 1st through 3rd placements. Each invited team will receive one complimentary meeting registration.

Essay contest: The top three placements will earn cash awards as follows: $500 for 1st; $300 for 2nd; and $200 for 3rd. Each invited competitor will receive one complimentary meeting registration as well.

Session #330
ADDRESSING ETHICAL ISSUES IN ENGINEERING DESIGN – PANEL DISCUSSION
Wednesday, August 1 – 10:30AM-12:00PM
LOCATION: 355
Moderator: Robert Gustafson, Ohio State University, Worthington, OH

A keynote speaker will introduce how IEEE P7000™ Standards Working Group which is setting the standards for the future of ethical intelligent and autonomous technologies. Including work on 1) Model Process for Addressing Ethical Concerns During System Design, 2) a Standard for developing autonomous technologies, and 3) how to manage privacy issues for systems or software that collect personal data. This will be followed by a panel discussion of ethics in agricultural and biological engineering systems design by practicing engineers.

Session #356
TRANSFORMING DRAINAGE: RETAINING WATER FOR INCREASED RESILIENCY OF DRAINED AGRICULTURAL LAND – INVITED SPEAKERS
Wednesday, August 1 – 10:30AM-12:15PM
LOCATION: 336
Moderator: Jane Frankenberger, Purdue University, West Lafayette, IN

Increasing the storage of drained water within the landscape could increase the sustainability of water for agriculture, producing positive impacts for crop production as well as the environment. This session will highlight work throughout the Midwest region to advance transformative drainage practices.

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<tr>
<td>10:15AM</td>
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<td>Introduction</td>
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<td>Keynote Speaker: Dr. Bill Moylan, Eastern Michigan University, Ypsilanti, Michigan</td>
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<tr>
<td>10:30AM</td>
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<td>Transforming Drainage through a Research, Extension, and a Stakeholder Network</td>
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<td>Jane Frankenberger, Purdue University, West Lafayette, IN (J. Frankenberger, B. Reinhart)</td>
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<td>Variability in Seasonal Tile Flow and Nitrate-N Loads from Controlled Drainage Systems across 16 Sites</td>
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Session #357
BEST PRACTICES IN GRADUATE PROGRAMMING AND RECRUITING – RAP SESSION
Wednesday, August 1 – 10:30AM-12:15PM
LOCATION: 356
Moderator: John Classen, North Carolina State University, Raleigh, NC

This session will start with short statements from a panel Directors of Graduate Programs; we will then have an open discussion about recruiting graduate students and training those students for success in a variety of careers. We’ll talk about recruiting tactics from the viewpoint of the program as well as that from the advisor, especially related to student success and program diversity. We’ll also discuss mentoring, curricular requirements, and non-curricular training suggestions that prepare our MS and PhD students for careers in academia, industry, government and other sectors.

E#22
ASABE AWARDS LUNCHEON
Wednesday, August 1 – 12:30PM-2:30PM
LOCATION: Grand Ballroom AB0

A complete list of awards to be presented will be posted at a later date. A luncheon ticket is included with your full meeting registration. Additional luncheon tickets are available $40.00 per person.

All major awards and Presidential Citations will be presented during the Awards Lunch.

COST: Included with full meeting registration
Extra Tickets-$40.00

T#4
MOTOWN MUSIC AND ART – A PRIVATE TOUR
Wednesday, August 1 – 2:30PM-5:30PM
LOCATION: Tour departs water entrance of Cobo Center on Atwater Street

Enjoy an amazing afternoon with Motown! Detroit’s Motown Museum, the famous Hitsville and home of the creation of Motown Music is one of Detroit’s claims to fame! On a private guided tour with a professional museum guide you will see and hear all the details of the Motown movement! Following your visit to the museum, continue learning about Detroit’s roots. An air conditioned bus will take you with your guide on a tour of the historic Boston Edison and West Canfield neighborhoods, featuring mansions from the 1890’s – the 1920’s – including the former home of Barry Gordy, founder of Motown Records. Stop at the exquisite Fisher Building for a brief tour and take some time to shop at unique Detroit venues.

Includes: Professional guides, escorted tour, deluxe bus transportation and all entrance fees.

COST: $65.00

Silent Auction & Raffle

Fun begins at Sunday’s Welcome Reception!
T#5
TOUR TO THE HEAVY EQUIPMENT CENTER AT FERRIS STATE UNIVERSITY, BIG RAPIDS, MICHIGAN
Wednesday, August 1 – 2:30PM-11:30PM
LOCATION: Tour departs water entrance of Cobo Center on Atwater Street

This tour will avail ANGA members and other interested ASABE members the opportunity to see the facilities at the Heavy Equipment Center, Ferris State University. It will also provide opportunities for collaborations and exchange of knowledge among members and the host.
COST: $65.00

E#23
SMARTAG VISIONARY SESSION AND STRATEGIC PLANNING WORKSHOP
Wednesday, August 1 – 3:00PM-7:30PM
LOCATION: 250A

ASABE and IEEE are partnering to promote smart technologies and innovations for enhancing global agro-food systems across the food supply chain. On Wednesday, August 1, 2018, 3:00pm-5:00pm, a SmartAg Visionary Session featuring leading industry innovators will take place, followed by a networking reception with hors d’oeuvres from 5:30pm-7:30pm. Open to everyone. Registration includes reception, lunch and coffee breaks.
COST: $99.00 Cover covers both Wednesday and Thursday Registration

E#23
SMARTAG VISIONARY SESSION AND STRATEGIC PLANNING WORKSHOP
Thursday, August 2 – 8:00AM-1:00PM
LOCATION: 42 Degrees North - Marriott Renaissance

On Thursday, August 2, 2018, 8:00am-5:00pm a Strategic Planning Workshop with international stakeholders from different sectors including academia, industry, commodity groups, government and non-governmental organizations will take place to develop a strategic plan for the SmartAg Initiative, including a 2019 SmartAg Conference.
Open to everyone. Registration includes reception, lunch and coffee breaks.
COST: $99.00 Cost covers both Wednesday and Thursday Registration

ASABE COUNCIL MEETINGS
Thursday, August 2 – 8:00AM-10:00AM
MEMBERSHIP COUNCIL
LOCATION: Richard B, Level 5 - Marriott Renaissance

MEETINGS COUNCIL
LOCATION: Richard A, Level 5 - Marriott Renaissance

PUBLICATIONS COUNCIL
LOCATION: Brule B, Level 5 - Marriott Renaissance

STANDARDS COUNCIL
LOCATION: Brule A, Level 5 - Marriott Renaissance

2019 ASABE Annual International Meeting
CALL FOR PAPERS
Opens October 1, 2018

2019 AIM - July 7-10, 2019 - Boston
MEXICANTOWN & CORKTOWN – A CULTURAL TOUR OF DETROIT
Thursday, August 2 – 9:00AM-12:30PM

Discover the rich and colorful cultural diversity of Detroit's unique history, places and people on this engaging and interactive tour of Southwest Detroit. Appreciate a sense of Detroit's local flavor and vitality by touring the main areas of Corktown and Mexicantown, including Michigan Avenue, historic neighborhoods dating back to the 1830's, Roosevelt Park, Vernor and Bagley, and the Mexicantown pedestrian bridge. Hear about the challenges and opportunities of these neighborhoods, the diverse population make-up and cultural preservation, and become more aware of the extensive positive investment via rehabilitation efforts and community building. This outing includes a visit to HoneyBee Market and a tasting of some Mexican specialties. You will also visit St. Anne de Detroit Catholic Church, the second oldest Catholic parish in the United States with the oldest stained glass windows in the city.

Includes: All arrangements with locations, deluxe bus transportation, guide, admissions and tastings.

COST: $60.00

ASABE BOARD OF TRUSTEES
Thursday, August 2 –1:00PM-4:15PM

Location: 42 Degrees North - Marriott Renaissance