

Tuesday, July 11 – 2:30PM-5:00PM

245-ED-O-2 SUCCESSFULMULTI-STATE EXTENSION PROGRAMS

(Sponsored by P-208)

Moderator: Thomas G. Franti, Univ of Nebraska, Lincoln, NE

Location: B110

TIME	PAPER #	PRESENTATION TITLE
2:30PM		Introduction
2:35PM	068044	Team Conservation Tillage - Promoting CTthrough Partnerships , Gary L. Hawkins, Univ of Georgia, Tifton, GA(G.L. Hawkins, A. Page, J. Gaskin, K. Iversen, D. Franklin, B. Moore, R. Odum)
2:50PM	068045	Conservation Tillage Training forGeorgia's County Agents , Gary L. Hawkins, Univ of Georgia, Tifton, GA(G.L. Hawkins, D. Lee, J. Gaskin, W. Reeves, K.S.U. Jayaratne)
3:05PM	068046	Development of an Operation and Maintenance Service Provider Training Program , Bruce J. Lesikar, Texas A&M Univ, College Station, TX (B. Lesikar, C. O'Neill, George Loomis, D. Kalen, D. Gustafson, N. Deal, D. Lindbo)
3:20PM		Break
3:30PM	068047	Installation of a Remote Pond Waterer: an Educational Focus Event , Morgan Powell, Kansas State University, Manhattan, KS (G.M. Powell, S.L. Edgett-Minson, H.C. George)
3:45PM	068048	Implementing OdorFootprint Tool Output Resources into the Planning and Permitting of Livestock Facilities , Richard R. Stowell, Univ of Nebraska, Lincoln, NE (R.R. Stowell, R.R. Koelsch, R. Nicolai, K. Niemeir, D. D. Schulte)
4:00PM	068049	National Learning CenterforAnimal AgricultureWaterQuality Issues , Richard Kent Koelsch, Univ of Nebraska, Lincoln, NE (R. Koelsch, M. Risse, F. Humenik, J. Harrison)

Tuesday, July 11 – 2:30PM-5:00PM

246-ED-O-7 BIOMASS FUELREDUCTION AND UTILIZATION

(Sponsored by T-12)

Moderator: James H. Dooley, Forest Concepts, Federal Way,WA

Location: B111

TIME	PAPER #	PRESENTATION TITLE
2:30PM		Introduction
2:35PM	068050	Perspectives on Woody Biomass Fuel Value and Specifications in Alabama , Dana L. Mitchell, USDAForest Service, Auburn University, AL(D. Mitchell)
2:50PM	068051	Perspectives on Woody Biomass for Value-Added Uses in the Western United States , Mark S. De Tray, Forest Concepts, Federal Way,WA – Presenter: David Lanning (M.S. DeTray, J.H. Dooley, D.N. Lanning)
2:50PM	068051	Perspectives on Woody Biomass for Value-Added Uses in the Western United States , David Lanning, Forest Concepts, LLC, Federal Way,WA (Presenter: David Lanning)
3:05PM		Break
3:15PM	068052	An Integrated Approach to Fuels Treatment in the Southwestern U.S.: The Harvest Cost-Revenue Estimator , Eini Lowell, P&WResearch Station 620 SWMain St., Portland, OR (E.C. Lowell, D.R. Becker)
3:30PM	068053	Modeling Infiltration Under Wood Byproducts Used ForErosion Control , Randy B. Foltz, USDAForest Service, Moscow, ID (R.B. Foltz, K.Y. Doyle)
3:45PM	068054	Large RectangularBales for Woody Biomass , James H. Dooley, Forest Concepts, Federal Way,WA (J.H. Dooley, J. L. Fridley, M. DeTray, D. Lanning)

Tuesday, July 11 – 2:30PM-5:00PM

247-ED-INV CHINAEXCHANGE: VISION, PHILOSOPHY, AND ROADMAPS (INVITED)

(Sponsored by AOCABFE)

Moderator: Xiusheng Yang, Univ of Connecticut, Storrs, CT

Location: B113

TIME	PAPER #	PRESENTATION TITLE
2:25PM		Introduction
2:30PM		Evolution, Development and Future of Agricultural Engineers , Jaw-Kai Wang, Univ of Hawaii, Honolulu, HI
2:45PM		Biomass Energy in China, A Challenge and a Chance , Xu Cheng, China Agricultural University, .
3:00PM		The Role of Overseas Chinese Professionals in Promoting Applied Technology Exchanges Between China and the World , Jiansheng Zhang, China Council for Applied Technology Exchanges, .
3:15PM		Critical Issues in Research forAgriculture, Farmers, and Rural Development in China , Maoliang Lei, Chinese Academy of Agricultural Engineering, Beijing, Peoples Republic of China
3:30PM		Student Exchange - First KSU Study-Aboard Group in China , Naiqian Zhang, Kansas State Univ, Manhattan, KS (D. Wang, T. Culbertson, A. Good)
3:45PM		Research, Education, and Commercialization of Agricultural Technologies in China , Yuejin Wang, Northwest Univ of A&F Science and Technology, .
4:00PM		Developments and Challenges in Agricultural Mechanization in Northeast China , Hong Xiao, Heilongjiang Association of Agricultural Mechanization and Engineering, .
4:15PM		Research in Agricultural Resources in China and Collaborative Opportunities for Overseas Chinese Scientists and Engineers , Yonghui Yang, CAS Center for Agricultural Resources Research, .
4:30PM		AOC-China Collaborations , Zhongli Pan, USDAARS WRRRC, Albany, CA

Tuesday, July 11 – 2:30PM-5:00PM

248-ED DEVELOPMENT & TRANSFER OFSUSTAINABLE TECHNOLOGIES FOR DEVELOPING COUNTRIES

(Sponsored by Intl-601)

Moderator: Fedro S. Zazueta, Univ of Florida, Gainesville, FL

Location: B112

TIME	PAPER #	PRESENTATION TITLE
2:30PM		Introduction
2:35PM	068055	Effect of the "Amenagement en courbes de niveau" on agricultural field water balance in Mali , Kevin M. Brannan, Virginia Tech, Blacksburg, VA(K.M. Brannan, R.A. Kablan, . R.S. Yost, M.D. Doumbia, A. Yoroté, Y.Toloba, S. Sissoko, M. Vaksman)
2:50PM	068056	Development of Portable Tools with Optimum Configuration forCutting Sugarcane , Clairmont L. Clementson, , Champaign, IL(C. Clementson, A. Hansen)
3:05PM	068057	Developing Software for Technology Transferto Developing Countries , Dennis P. Dykstra, USDAForest Service, Portland, OR (D.P. Dykstra)
3:20PM	068058	Community Participation and Partnerships forRural , Brett A. Gleitsmann, Cornell University, Ithaca, NY(B. Gleitsmann, M. Kroma, T. Steenhuis)

3:55PM	068059	Design forMulti-lifecycle: A sustainable design concept applied to an agro-industrial development project in West Africa , Israel Sunday Dunmade, Mt Royal College, Calgary, AB Canada (I.S. Dunmade)
3:50PM		Break
4:00PM	068060	Use of Electronic Devices on Tractors in Turkey , Deniz Yilmaz, Univ of Akdeniz, Antalya, Turkey (D. Yilmaz, I. Akinci, T. Sevim)
4:15PM	068061	GenderIssues in Relation to Livestock Buffaloes Rearing in India , Manju NASuman, ICAR, Jhansi 284003, India (M. Suman, B. L. Suman, R.N. Dwivedi,.)
4:30PM	068062	Wind Powerin China: Social Acceptability and Development of a Domestic Manufacturing Industry , Joy H. Wang, Michigan State Univ, Haslett, MI (J. Wang)
4:45PM	068063	Agroforestry and Sustainable Vegetable Production in Southeast Asian Watersheds , Manuel R. Reyes, North Carolina A&TState Univ, Greensboro, NC (M.R. Reyes et al)
5:00PM	068064	Potential of Refractance Window Technology for Value Added Processing of Fruits and Vegetables in Developing Countries , Caleb I. Nindo, Washington State Univ, Pullman, WA (C.I. Nindo, J. Tang, J.R. Powers)

POWER & MACHINERY

Wednesday, July 12 – 9:30AM-12:00PM

300-PM-3 PESTICIDE APPLICATION TECHNOLOGYFOR TREE AND BUSH CROPS

(Sponsored by PM-23/6)

Moderator: Masoud Salyani, Univ of Florida, Lake Alfred, FL

Location: C122

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	061122	The Development of a Fixed Spraying System forHigh-Density Apple Trees , Andrew John Landers, Cornell Univ, Geneva, NY(A. Landers, A. Agnello, W.Shayya)
9:50AM	061123	Pollution Reduction from a Spray Recovery Sprayer , Roger Theriault, Univ Laval, Ste Foy, QC Canada (B. Panneton, B. Lacasse, M. Piché, R. Thériault)
10:05AM	061124	Influence of Air Velocity on Spray Deposition in Peach Orchards , Paolo PB Balsari, Univ of Turin-DEIAFA, Grugliasco TO, Italy (P. Balsari, M. Tamagnone, P. Marucco, D. Ghigo)
10:20AM	061125	Dynamic Air Velocity and Spray Deposition Inside Dense Nursery Crops with a Multi-jet Air-assist Sprayer , Heping Zhu, USDAARS-Application Tech Res Unit, Wooster, OH (H. Zhu, R.D. Brazee, R.C. Derksen, R.D. Fox, C.R. Krause, H.E. Ozkan, K. Losely)
10:35AM		Break
10:45AM	061126	CANCELLED
11:00AM	061127	Spray Capture Efficiencies of Ribbon and String Targets used in Orchard Applications , Masoud Salyani, Univ of Florida, Lake Alfred, FL(M. Salyani, R.D. Sweeb, M. Farooq)
11:15AM	061128	Optimizing Pesticide Spray Applications in Tree Crops , Santiago Planas, Generalitat de Catalunya Agr Dept, Barcelona, Spain (P. S. E. A. G.E. V. L. R. JR)
11:30AM	061129	Study on an Intelligent System forPrecision Pesticide Application Based on Fuzzy Control and Machine Vision , Yong Chen, Nanjing Forestry Univ, Nanjing, Peoples Republic of China – Presenter: Haitao Xiang (Y. Chen, J.Zheng, X.G. Hou,W. Guo)
11:45AM	061130	Inspection of Sprayers in use: A European Sustainable Strategy to Reduce Pesticide use in Fruit Crops , Emilio Gil Moya, Cornell University Barton Lab, Dept of Entomology, Geneva, NY(E. Gil)

Wednesday, July 12 – 9:30AM-12:00PM

301-PM-15 INNOVATIONS IN TRACTION AND TRACTOR DESIGN

(Sponsored by PM-46, PM-45, P-126)

Moderator: Thomas R. Way, USDAARS, Auburn, AL

Location: C123

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	061131	Off-Road Dynamics Research at Cranfield University at Silsoe , Richard J. Godwin, National Soil Resources Institute Cranfield University at Silsoe, Bedford, United Kingdom (D. Godwin, J. Brighton, K. Blackburn, T. Richard)
10:05AM	061132	CANCELLED
10:20AM	061133	A Team Advisor's Perspective on the1/4 Scale TractorStudent Design Competition , John Bruce Solie, Oklahoma State Univ, Stillwater, OK
10:35AM		Break
10:45AM	061134	First Place Team for2006 in the1/4 Scale TractorStudent Design Competition
11:00AM	061135	Second Place Team for2006 in the1/4 Scale TractorStudent Design Competition
11:15AM	061136	Third Place Team for2006 in the1/4 Scale TractorStudent Design Competition
11:30AM	061137	A Study of an Electro-hydraulic Driven Cooling System for a Tractor , Xin-min Guo, Shandong Agricultural University, Tai'an, Shandong, NC Peoples Republic of China – Presenter: Juan Xing
11:45AM		Discussion

Wednesday, July 12 – 9:30AM-12:00PM

302-PM-16 FRUITAND VEGETABLE ENGINEERING

(Sponsored by PM-48, FPE-712)

Moderator: Thomas F. Burks, Univ of Florida, Gainesville, FL

Location: C126

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	061138	Automatic Field Transplanters for Vegetable Crops , Lawrance N. Shaw, Univ of Florida, Gainesville, FL(L.N. Shaw)
9:50AM	061139	Fatigue and Stability Analysis of a Continuous Blade Band-type CutterforLeafy Vegetables , James L. Glancey, Univ of Delaware, Newark, DE (D. Brown, J. Glancey)
10:05AM	061140	Fruit Thinning with Precise Limb Shakers , Kabileshkumar G. Cheetanancheri, University of California, Davis, Davis, CA(K. G Cheetanancheri, S.-H. Lee, U.A.Rosa, J. Thompson)
10:20AM	061141	Field Evaluation of a Citrus Fruit Pickup Machine , Ganesh C. Bora, University of Florida, Lake Alfred, FL(G. Bora, R. Ehsani, R. Goodrich, G. Michaels)
10:35AM	061142	Physical Properties of Citrus in Response to Applied Forces in Robotic Harvesting , Samuel J. Flood, Univ of Florida, Gainesville, FL(S.J. Flood, T.F. Burks, A.A. Teixeira)
10:50AM		Break
11:00AM	061143	End-effectorforAutomated Citrus Harvesting , Siu Him Lee, Univ of California Davis, San Mateo, CA(B.S.H. Lee, U.A. Rosa, K. Cheetanancheri)

- 11:15AM 061144 **Theoretical Aspects of Orienting Fruit Using Stability Properties During Rotation**, Priva Narayanan, University of Maryland, Catonsville, MD (P. Narayanan, A. M. Lefcourt, U. Tasch, R. Rostamian, A. Grinblat, M.S. Kim, Y.R. Chen)
- 11:30AM 061145 **Energy and Economic Effectiveness of a Dehumidifier for Small Scale Coffee Drying**, Loren D. Gautz, Univ of Hawaii At Manoa, Honolulu, HI (L.D. Gautz)
- 11:45AM 061146 **Field Study of the Movement of Sound Produced in Vineyards in Niagara, ON, Canada**, Hugh W. Fraser, Ontario Ministry of Agr & Food, St Catharines, ON Canada (H.W. Fraser, V. Gambino, T. Gambino)

Wednesday, July 12 – 9:30AM-12:00PM

303-PM-23 GIS AND SPATIAL TECHNOLOGIES FOR MANAGEMENT DECISION-MAKING (Sponsored by PM-54, PM-43)

Moderator: Randal K. Taylor, Oklahoma State Univ, Stillwater, OK
Location: C124

- | TIME | PAPER # | PRESENTATION TITLE |
|---------|---------|---|
| 9:30AM | | Introduction |
| 9:35AM | 061147 | Geospatial Solutions for Precision Management of Cotton Root Knot Nematodes , Brenda V. Ortiz, Univ of Georgia, Athens, GA (B. V. Ortiz, D.G. Sullivan, C.D. Perry, G. Vellidis) |
| 9:50AM | 061148 | ArborCensus: A GIS-Based Tool for Arboreal Cataloging , Josh M. Peschel, Texas A&M Univ, College Station, TX (J. M. Peschel, R. E. Lacey) |
| 10:05AM | 061149 | Assesment of Soil Hardpan Spatial Variability on Southeastern US Soils for Precision Tillage Applications , Mehari Z. Tekeste, Univ of Georgia, Athens, GA (M.Z. Tekeste, R.L. Raper) |
| 10:20AM | 061150 | GPS and GIS Technologies for Survey and Management of Roadside Vegetation , Caleb Arika, University of Minnesota, Saint Paul, MN (C. N. Arika, J. L. Nieber, D. Wyse) |
| 10:35AM | | Break |
| 10:45AM | 061151 | Implementing On-Farm Research with Precision Ag Technologies , Randal K. Taylor, Oklahoma State Univ, Stillwater, OK (R.K. Taylor, J.B. Solie, A.L. Holzwarth, M.Stone, B. Raun, S.A. Staggenborg) |
| 11:00AM | 061152 | Spatial Decision Support System for Medfly Control , Yafit Cohen, Institute of Agr Eng, Bet Dagan, Israel (Y.Cohen, A. Hetzroni, N. Weisman, T. Coral, D. Timar) |

Wednesday, July 12 – 9:30AM-12:00PM

304-PM-28 AUTOMATED GUIDANCE OF AGRICULTURAL VEHICLES

(Sponsored by PM-58, IET-318, PM-54)
Moderator: Chenghai Yang, USDAARS, Weslaco, TX
Location: C125

- | TIME | PAPER # | PRESENTATION TITLE |
|---------|---------|--|
| 9:30AM | | Introduction |
| 9:35AM | 061153 | MEMS Sensors to Prevent ... , H Joseph Sommer, III, Penn State Univ, University Park, PA (H.J. Sommer, C. I. Nichol, D.J. Murphy) |
| 9:55AM | 061154 | Obstacle Avoidance Turning System for Intelligent ... , Zhihui Mao, China Agricultural Univ, Beijing, Peoples Republic of China (Q. Wei, Z. Dou, Z. Mao) |
| 10:15AM | 061155 | A Network-centric Approach to Agricultural Vehicle Using a ... , Stuart Pocknee, Univ of Georgia, Tifton Campus, Tifton, GA (S. Pocknee, V. Garrick, C. Kvien, G. Rains) |
| 10:35AM | 061156 | Automated Guidance of an Articulated Vehicle Using a ... , Jeremy C. Cantrell, Univ of Kentucky, Lexington, KY – Presenter: Scott Shearer (J.C. Cantrell, S.A. Shearer, M.W. Veal) |
| 10:55AM | | Break |
| 11:00AM | 061157 | Using Federated Filter to Estimate Position of Automated ... , Fangming Zhang, Zhejiang University, Hangzhou, Zhejiang Province, Peoples Republic of China (F. Zhang, Y. Ying, Q. Zhang, B. Shin, J. Yu, C. Shen) |
| 11:20AM | 061158 | Optimal Path Planning for Arable Farming , Jin Jian, Iowa State Univ, Ames, IA (J. Jin, L. Tang) |
| 11:40AM | 061159 | Sensor Fusion for Improved Roll Estimation ... , Lav R. Khot, Iowa State Univ, Ames, IA (L.R. Khot, L. Tang, B.L. Steward, S. Han) |
| 12:00PM | 061203 | Development of a Automatic Guidance System for a Semi-Crawler Tractor , Akira Mizushima, University of Illinois at Urbana-Champaign, West Des Moines, IA (A. Mizushima) |

SOIL & WATER

Wednesday, July 12 – 9:30AM-12:00PM

305-SW-16 HYDROLOGY AND WATER QUALITY (Sponsored by SW-21)

Moderator: Balaji Narasimhan, Texas A&M Univ, College Station, TX
Location: Exhibit Hall A

- | TIME | PAPER # | PRESENTATION TITLE |
|---------|---------|---|
| 9:30AM | | Introduction |
| 9:35AM | 062230 | Sensitivity Analysis of HSPF Using Monte Carlo Simulation and Sediment Export Coefficients in the Caribbean Region , Gustavo A. Suarez, Univ of Puerto Rico At Mayaguez, Mayaguez, PR (L.R. Perez-Alegria) |
| 9:50AM | 062231 | Remote Sensing of Field Level Management Practices , Brian K. Gelder, Iowa State Univ, Ames, IA (B. Gelder, A. Kaleita, R. Cruse) |
| 10:05AM | 062232 | Using Remote Sensing Technologies for Assessment of Imperviousness in a Watershed , Dawn A. Farver, Univ of Arkansas, Fayetteville, AR (D.A. Farver, J.A. Tullis, R.D. Williams) |
| 10:20AM | 062233 | Distributed Soil Depth Estimation with Remote Sensing of Evapotranspiration , Joseph Kaufman, University of Idaho Biological and Agricultural Engineering, Moscow, ID – Presenter: Jan Boll (J. Kaufman, J. Boll, R. Allen, M. Tasumi) |
| 10:35AM | 062234 | A Novel SWAT Modeling Approach for the Boone River Watershed in North Central Iowa , Philip W. Gassman, Iowa State Univ, Ames, IA (P.W. Gassman, S. Secchi, M. Jha) |
| 10:50AM | | Break |
| 11:00AM | 062235 | Calibration and validation of the SWAT model in Goodwater Creek Watershed , Edward J. Sadler, USDAARS, Columbia, MO (E.J. Sadler, C. Baffaut, R. Lerch, S. Anderson, F. Ghidley, E. Alberts) |
| 11:15AM | 062236 | Modeling No-Till Runoff and Sediment Yield using SWAT , Devanand Maski, Kansas State University, Manhattan, KS (D. Maski, K.R. Mankin, K.A. Janssen, P. Tuppad) |
| 11:30AM | 062237 | SWAT Modeling for the Racoon River Watershed in Iowa , Manoj K. Jha, Iowa State Univ, Ames, IA (M. Jha, K.E. Schilling, P.W. Gassman, C. Wolter, J.G. Arnold) |

- 11:45AM 062258 **Performance of Four Hydrologic Models in Simulating Ontario Spring Conditions**, Samaresh Das, Univ of Guelph, Guelph, ON Canada (S. Das, R.P. Rudra, B. Gharabaghi, A. Singh, S. Ahmed)

Wednesday, July 12 – 9:30AM-12:00PM

306-SW-17 CHARACTERIZING NUTRIENT TRANSPORT IN THE ENVIRONMENT (Sponsored by SW-21)

Moderator: Kyle R. Mankin, Kansas State Univ, Manhattan, KS
Location: A103

- | TIME | PAPER # | PRESENTATION TITLE |
|---------|---------|---|
| 9:30AM | | Introduction |
| 9:35AM | 062239 | Time Series Characterization of Particulate Phosphorus Losses for Three Corn Management Systems , John C. Panuska, Univ of Wisconsin, Madison, WI (J.C. Panuska, K.G. Karthikeyan, P.S. Miller, J.D. Grande) |
| 9:50AM | 062240 | Characterizing Hydrologically Active Areas for Effective Management of Phosphorus Loss in Surface Runoff , Sumit Sen, Auburn Univ, Auburn University, AL (S. Sen, P. Srivastava, K. Yoo, P.T. Clement) |
| 10:05AM | 062015 | Measuring Environmental Benefits Of Conservation Practices: The Conservation Effects Assessment Project (Ceap)-An Approach For National Level Calibration , Narayanan Kannan, Blackland Research Center (Texas A & M), Temple, TX (N. Kannan, C. Santhi, M. Di Luzio, X. Wang, S. Potter, J.G. Arnold) |
| 10:20AM | 062242 | Modeling Phosphorous Transport in Tile Drained Fields , Joumana Abou Nohra, McGill Univ, Montreal, QC Canada (J. Abou Nohra, C.A. Madramootoo, W.H. Hendershot) |
| 10:35AM | 062243 | Tropgleams: a Model to Predict Root Zone N and Pin Tropical Conditions , Conrad D. Heatwole, Virginia Tech, Blacksburg, VA (M. Caiado, C. Heatwole) |
| 10:50AM | | Break |
| 11:00AM | 062244 | Modeling Nutrient Transport for Watersheds in Southern Ontario, Canada , Amanjot Singh, Univ of Guelph, Guelph, ON Canada (A. Singh, R. Rudra, B. Gharabaghi, S. Das, S. Ahmed) |
| 11:15AM | 062245 | Simulating Beef Pasture Nutrient Loads in the Lake Okechobee Basin , Vibhuti Pandey, Univ of Florida, Gainesville, FL (V. Pandey, K.L. Campbell, S. Shukla, B. Jacobson) |
| 11:30AM | 062246 | Characterizing Nutrient Transport in the Environment , Stuart J. Muller, Univ of Florida, Gainesville, FL – Presenter: Rafael Munoz-Carpena (S. Muller, R. Muñoz-Carpena, A. James, J. Jawitz, K. Grace) |
| 11:45AM | 062247 | A Phased Approach to Developing Water Quality Models for Watershed Management in the Lower Colorado River, Texas , Angela D. Rodriguez, LCRA, Austin, TX (A. Rodriguez, R.S. Solis, J. Wedig) |

Wednesday, July 12 – 9:30AM-12:00PM

307-SW-18 STORMWATER RUNOFF AND SEDIMENT CONTROL

(Sponsored by SW-22)
Moderator: Russell A. Persyn, South Dakota State University, Brookings, SD
Location: A106

- | TIME | PAPER # | PRESENTATION TITLE |
|---------|---------|--|
| 9:30AM | | Introduction |
| 9:35AM | 062248 | Groundwater Dispersivity Induced by Stormwater Runoff , David W. Ostendorf, Univ of Massachusetts, Amherst, MA |
| 9:50AM | 062249 | An Evaluation of Level Spreader Performance in North Carolina , Jon M. Hathaway, North Carolina State Univ, Raleigh, NC (J.M. Hathaway, W.F. Hunt) |
| 10:05AM | 062250 | Efficiency Testing for Sediment Control of New Silt Fence Materials , Lawrence Mark Risse, Univ of Georgia, Athens, GA (L.M. Risse, K. Harris) |
| 10:20AM | 062251 | Evaluation of Standards for Compost Blankets in Stormwater Control , Lindsay N. Birt, Texas A&M Univ, College Station, TX (L.N. Birt, R.A. Persyn; P.K. Haan; B.K. Mallick) |
| 10:35AM | 062252 | Impacts of Changing Land Use During Development , John C. Hayes, Clemson Univ, Clemson, SC (J.C. Hayes, B.J. Barfield) |
| 10:50AM | | Break |
| 11:00AM | 062253 | CANCELLED |
| 11:15AM | 062254 | Polyacrylamide Blocks for Turbidity Control , Richard A. McLaughlin, North Carolina State Univ, Raleigh, NC (R.A. McLaughlin) |
| 11:45AM | 062256 | Sizing Wetland Forebays Based on Wetland and Watershed Characteristics , William F. Hunt, III, North Carolina State Univ, Raleigh, NC (J. Johnson, W.F. Hunt) |

Wednesday, July 12 – 9:30AM-12:00PM

308-SW-19 MODELING AND EVALUATION OF CONSERVATION PRACTICES (Sponsored by SW-22)

Moderator: Jeffrey Arnold, USDAARS, Temple, TX
Location: A107

- | TIME | PAPER # | PRESENTATION TITLE |
|---------|---------|---|
| 9:30AM | | Introduction |
| 9:35AM | 062257 | Use of Data from An Intensively-Monitored Field Site to Determine Input Parameters for SWAT , Gary W. Feyereisen, USDAARS, Tifton, GA (G.W. Feyereisen, T.C. Stickland, D.D. Bosch, C.C. Truman, D.G. Sullivan, T.L. Potter, R.K. Hubbard) |
| 9:50AM | 062258 | An Analysis of Economic Feasibility on the Automated Agricultural Water Management in Korea , Sun Joo Kim, Konkuk Univ, Seoul, South Korea (S.J. Kim, Y. G. Jee, P.-S. Kim, C.Y. Lim) |
| 10:05AM | 062259 | Assessing the Impact of Spatial Variable Resolution on Hydrologic Processes and NPS Pollutant Transport , Ik-Jae Kim, Kansas State Univ, Manhattan, KS (I. Kim, S.L. Hutchinson) |
| 10:20AM | 062260 | LCA Estimation of Agriculture of Okinawa, Japan , Kazuhito Sakai, Univ of Ryukyuu, Okinawa, Japan (K. Sakai) |
| 10:35AM | 062261 | Modeling Concrete Pipe Encasements for Small Dams , Benjamin C. Doerge, USDA NRCS, Fort Worth, TX (B.C. Doerge) |
| 10:50AM | | Break |
| 11:15AM | 062263 | Post-Project Concrete Lining Seepage Analysis , Vickie Doyle, Imperial Irrigation District, Imperial, CA (V. Doyle) |
| 11:30AM | 062264 | Simulated Hydrologic Impact of Forest Development Resulting from Conservation Practice Implementation , David Dean Bosch, USDAARS SEWRL, Tifton, GA (D. Bosch, G. Feyereisen, T. Strickland) |
| 11:45AM | 062265 | Site Vulnerability to N- and P-Based Nutrient Management , Tamie L. Veith, USDA ARS, University Park, PA (T.L. Veith, A.N. Sharpley) |

Wednesday, July 12 – 9:30AM-12:00PM

309-SW-20 DRAINAGE AND WATER QUALITY (Sponsored by SW-23)

Moderator: James L. Fouss, USDAARS, Baton Rouge, LA

Location

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	062266	Comparing Numerical and Analytical Solutions for Baseflow Into Drainage Channels , Debashish Goswami, Univ of Illinois, Urbana, IL (D. Goswami, P. K. Kalita, R.A. Cooke)
9:50AM	062267	Implementing Critically Needed Technology Changes in Agricultural Drainage Systems , James L. Fouss, USDAARS, Baton Rouge, LA (J.L. Fouss, Timothy W. Appelboom)
10:05AM	062268	Variability and Decay Patterns of E. Coli in Drainage Water , Glenn Stratton, Nova Scotia Agricultural College, Truro, NS Canada (C.L. Shaw, G.W. Stratton, R. Gordon, A. Madani)
10:20AM	062269	Effect of a Rye Cover Crop on Dairy Manure As a Source of E. Coli in Leachate from Soil Columns , Paula N. Steiner, Michigan State Univ, Lansing, MI (P.N. Steiner, T.M. Harrigan, J.B. Rose, A.J. Smucker, W.J. Northcott)
10:35AM	062270	Modeling Manure Nutrient Movement in the Soil , Bereket A. Assefa, Univ of Manitoba, Winnipeg, MB Canada (B. Assefa, Y. Chen)
10:50AM		Break
11:00AM	062271	CANCELLED
11:15AM	062272	Desalinization Approach Under Heavy Clay Low Permeable in North Egyptian Soil , Mohamad M. Moukhtar, Soil, Water & Environmental Research Institute, Imbaba, Giza, Egypt (M.M. Moukhtar, M.B. El Shevikh, A.I.N. Abdel-Aal, M.I.I. Abdel-Khalik)
11:30AM	062273	On-Farm Disposal of Saline Drainage Water , James E. Ayars, Water Management Res Lab, Parlier, CA (L. Basinal, V. Cervinka)
11:45AM	062274	Methods for Removing Nitrate-Nitrogen from Agricultural Drainage Waters: A Review and Assessment , Timothy W. Appelboom, USDAARS, Baton Rouge, LA (T.W. Appelboom, J.L. Fouss)

Wednesday, July 12 – 9:30AM-12:00PM

310-SW-21 MANAGEMENT OF DRIP IRRIGATION (Sponsored by SW-24)

Moderator: Edward Charles Martin, Univ of Arizona, Maricopa, AZ

Location: A109

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	062275	Drip Irrigation of Tomatoes and Cotton in Saline Soil , Blaine R. Hanson, Univ of California Davis, Davis, CA (B. Hanson, D. May, R. Huttmacher)
9:50AM	062276	Comparison of Subsurface Drip Irrigation Uniformity Designs on Cotton Production on the Texas South Plains , James P. Bordovsky, Texas A&M Univ, Plainview, TX (J.P. Bordovsky, D. O. Porter)
10:05AM	062277	Comparing SDI and Sprinkler Irrigated Yields in Commodity Crops in North Carolina , Garry Grabow, North Carolina State Univ, Raleigh, NC (G.L. Grabow, R.L. Huffman, R.O. Evans, D. L. Jordan)
10:20AM	062278	Crop Germination and Near-Surface Soil Water and Temperature for SDI, LEPA, and Spray Irrigation , Paul D. Colaizzi, USDAARS, Bushland, TX (P.D. Colaizzi, S.R. Evett, T.A. Howell)
10:35AM	062279	SDI Wide Bed Design Improves Row Crop Germination , Paul D. Colaizzi, USDAARS, Bushland, TX (P.D. Colaizzi, S.R. Evett, T.A. Howell)
10:50AM		Break
11:00AM	062280	Study on the Head Losses and Turbulence Produced by the Connections in the Manifold , Royuela Alvaro, University of Polytechnic of Valencia, Valencia, Spain (A. R. Tomas, G. Palau-Salvador, J. M. Juarez)
11:15AM	062281	Innovative On-Site Wastewater Alternatives with Drip Irrigation , Mark Dougherty, Auburn Univ, Auburn, AL (Dougherty, He, Shaw, Vaughan)
11:30AM	062282	Fertilization Uniformity As Affected by Injector Type and Manufacturing Variability of Emitters , Jiusheng Li, Dept of Irrigation & Drainage, Beijing, Peoples Republic of China

INFORMATION & ELECTRICAL TECHNOLOGIES

Wednesday, July 12 – 9:30AM-12:00PM

311-IET-10 INFORMATION SYSTEMS FOR AGRICULTURAL AND BIOLOGICAL SYSTEMS (Sponsored by IET-254)

Moderator: Dennis G. Watson, Southern Illinois Univ, Carbondale, IL

Location: C120

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	063065	Developing Object-Oriented Simulation Models with .NET Framework , Pabitra Kumar Dash, Mayville State University, Mayville, ND (P. Dash)
9:50AM	063066	Quality Classification for Maple Syrup Using E-Noses , Ning Wang, McGill Univ, Ste-Anne-de-Bellevue, QC Canada (N. Wang, Z. Li, J. Fortin, C. Vigneault)
10:05AM	063067	Phytosampler – A Handheld Support System to Facilitate Sampling, Measurement and Mapping of Plant Canopies , Dvorralai Wulfsohn, Royal Vet & Ag Univ, Taaststrup, Denmark (J. Gardi, D. Wulfsohn)
10:20AM	063068	An Overview of the Architecture for Centralized Management of Decentralized Wastewater Systems , Clement Solomon, West Virginia Univ, Morgantown, WV (C. Solomon, J. Kamalesh, L. Lin)
10:35AM	063069	Development of Agricultural Watershed Management System for Hydrologic and Water Quality Data Management and Analysis , Hakkwan Kim, Seoul National Univ, Seoul, South Korea (H.K. Kim, S.W. Park, S.M. Kim)
10:50AM		Break
11:00AM	063070	Influence of Spatial and Temporal Scales on Performance of Saturated Subsurface Flow and Transport Models , Debasmita Misra, Univ of Alaska, Fairbanks, AK (N.K.C. Twarakavi, D. Misra, M. Sekhar)
11:15AM	063071	Neural Network as a Prediction Tool in Agricultural Variables , Raquel Salazar Moreno, Universidad Autonoma Chapingo, Texcoco, Mexico Mexico (R. Salazar, A. Rojano, I. López)
11:30AM	063072	Positioning with Wireless Sensor Technology , Daan Goense, Wageningen University and Reserchcentre, Wageningen, Netherlands (D. Goense, R.M. de Mol, O.W. Visser)
11:45AM	063073	CANCELLED
12:00PM	063074	Software Design for Wireless In-field Sensor-based Irrigation Management , Yunseop Kim, USDA-ARS, Sidney, MT (Y. Kim, R. Evans, F. Pierce, J. Chavez)

312-IET-12A BIOIMAGING AND MACHINE VISION FOR FOOD SAFETY, QUALITY AND PROCESSING - PART 1

(Sponsored by IET-312)

Moderator: Won Suk (Daniel) Lee, Univ of Florida, Gainesville, FL

Location: Oregon Ballroom 201/202

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:50AM	063076	Fuzzy Logic-based Differentiation Imaging System for Systemically Diseased Chicken Detection , Chun-Chieh Yang, USDAARS, Beltsville, MD (C.-C. Yang; K. Chao; Y.-R. Chen; M.S. Kim; D.E. Chan)
10:05AM	063077	Detection of Pecan Weevil Larvae in Pecan Nutmeat Using Multispectral Imaging , Chaital P. Shah, Oklahoma State University, Stillwater, OK (C. Shah, P. Weckler, N. Maness)
10:20AM	063078	Effectiveness of PL Filtering Image with Halogen Lamp for Agricultural Products , Naoshi Kondo, Ehime University, Ehime, Japan (N. Kondo, K. Namba, K. Nishiwaki, P. Ling, M. Monta)
10:35AM		Break
10:45AM	063079	Three Dimensional Seed Shape and Size Measurement with Orthogonal Cameras , Muhammad A. Shahin, Canadian Grain Commission, Winnipeg, MB Canada (M.A. Shahin, S.J. Symons, L.V. Schepdael, A.R. Tahir)
11:00AM	063080	Dimension Measurement and Fissuring of Rice Kernels , Naoto Shimizu, Univ of Tsukuba, Ibaraki, Japan (N. Shimizu, M.A. Haque, M. Andersson, T. Kimura)
11:15AM	063081	Dual Energy X-ray Image Analysis for Classifying Vitreous Kernels in Durum Wheat , Suresh Raja Neethirajan, Univ of Manitoba, Winnipeg, MB Canada – Presenter: Digvijay Jays (S. Neethirajan, D.S. Jays, C. Karunakaran)

Wednesday, July 12 – 9:30AM-12:00PM

313-IET BIONANOTECHNOLOGY FOR AGRICULTURE, FOOD, AND HEALTHCARE (Sponsored by IET-318, BE-21, BE-23, FPE-703)

Moderators: Irfan Saleem Ahmad, Univ of Illinois, Urbana, IL, Joseph Irudayaraj, Purdue University, West Lafayette, IN

Location: C121

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM		Photonic Crystal Biosensors and Applications in Pharmaceutical Discovery (invited speaker) , Brian Cunningham, ECE, Urbana, IL
9:50AM	063101	Irons Nanoparticles based Kinetics of Enzymes, DNAs, and Proteins , Gilles Kouassi, Pennsylvania State University, University Park, PA
10:05AM	063102	An Information Framework for Systems-based Design of Biological Nanotechnology , Kaustubh D. Bhalerao, Univ of Illinois U C, Urbana, IL
10:20AM	063103	Utilization of Nickel Nanoparticles to Facilitate the Recovery of Histidine-tagged Proteins , Melinda J. Wolanin, Univ of Kentucky, Lexington, KY
10:35AM		Break
10:45AM		Applications of Nanotechnology to Plant Genomics and Gene Expression (invited speaker) , Lila Vodkin, Crop Sciences, Urbana, IL
11:00AM	063104	Pathogenicity at Nanoscale , Irfan Saleem Ahmad, Univ of Illinois, Urbana, IL
11:15AM	063105	Patterning and Fluorescent Biorecognition of Multiple Proteins/Gold Nanoparticles in E-Beam Nanopatterns , Tremaine Powell, Univ of Arizona, Tucson, AZ (J.Y. Yoon)
11:30AM	063106	Evaluation of Nano-structured Sensing Material for Detection of Pathogen Activities in Food Systems , Suranjan Panigrahi, North Dakota State Univ, Fargo, ND
11:45AM	063107	Continuum Modeling of Nanoparticle Transport in Heterogeneous Media , Hubert J. Montas, Univ of Maryland, College Park, MD

STRUCTURES & ENVIRONMENT

Wednesday, July 12 – 9:30AM-12:00PM

314-SE-12A TECHNOLOGIES FOR CHARACTERIZING AND MITIGATING EMISSIONS FROM STATIONARY SOURCES I (Sponsored by SE-305)

Moderator: Kenneth D. Casey, Texas Agricultural Experiment Station, Amarillo, TX

Location: B110

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	064154	A Novel Approach to CAFO Odor Assessment: Odorant Field Collection by Sorbent Tube / Thermal Reconstitution in the Laboratory , Donald W. Wright, Microanalytics, Round Rock, TX (D.W. Wright, J.A. Koziel, D.B. Parker)
9:50AM	064155	Real Time Air Monitoring for Ammonia, Hydrogen Sulfide and Phenol at AFO's and CAFO's , Donald Gamiles, Cerex Environmental Services, Inc., Atlanta, GA (D. Gamiles)
10:05AM	064156	Use of CO2 Concentrations to Estimate Ventilation Rate and Emissions from Commercial Broiler Houses , Hongwei Xin, Iowa State Univ, Ames, IA – Presenter: Hong Li (H. Xin, H. Li, R.T. Burns, R.S. Gates, D.G. Overhults, J.W. Earnest, Jr., L.B. Moody, S.J. Hoff)
10:20AM	064157	Characterization of Odor from Livestock and Poultry Operations by the Hedonic Tone , Sven Nimmermark, Swedish Univ of Ag Sciences, Alnarp, Sweden (S. Nimmermark)
10:35AM		Break
10:45AM	064158	Wireless Technology for Air Quality Sensor Networking , Matthew J. Darr, Ohio State Univ, Columbus, OH (M. Darr, L. Zhao, R. Ehsani)
11:00AM	064159	Monitoring of Ventilation Fan Motor Operation with Induction Operated Current Switches , Ross V. Muhlbaier, Mississippi State Univ, Ames, IA (R. Muhlbaier, T. Shepherd, H. Li, R. Burns, H. Xin)
11:15AM	064160	Improvements in Ventilation Monitoring , Matthew J. Darr, Ohio State Univ, Columbus, OH (M. Darr, L. Zhao, J. Ni)
11:30AM	064161	A New Wind Tunnel for Aerosol Sampling Studies , Jing Chen, Texas A&M Univ, College Station, TX (J. Chen, B.W. Shaw, C.A. Ortiz, C. Boriack, F. Brock)

Wednesday, July 12 – 9:30AM-12:00PM

315-SE-11 PARTICULATE MATTER EMISSION FACTORS AND ABATEMENT STRATEGIES (Sponsored by SE-305)

Moderator: Jing Chen, Texas A&M Univ, College Station, TX
Location: B111

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	064162	Analysis of Outlet Concentrations from 1D3D Cyclones Over a Range of Inlet Loading Concentrations , Daniel A. Michalewicz, Texas A&M Univ, College Station, TX (D.A. Michalewicz, B.W. Shaw, W.B. Faulkner)
9:50AM	064163	Comparison of Particle Sizing Instruments for Measurement of Air Emissions from Agricultural Operations , Shay L. Simpson, Texas A&M Univ, College Station, TX (S.L. Simpson, C.B. Parnell, Jr., B.W. Shaw)
10:05AM	064164	Development of a PM10 Emission Factor for Hybrid Dairies , Lee Barry Goodrich, Texas A&M University, College Station, TX (S.C. Capareda, S. Mukhtar, S.C. Capareda, B.W. Shaw)
10:20AM	064165	Effects of Cyclone Diameter on Performance of 1D3D and 2D2D Cyclones , William B. Faulkner, Texas A&M Univ, College Station, TX (W.B. Faulkner, M.D. Buser, B.W. Shaw)
10:35AM		Break
10:45AM	064166	Evaluation and Improvement Potential of Feedlot Dust Control Using Sprinklers at Wallula, WA , Brian G. Leib, Univ of Tennessee, Knoxville, TN (B. Leib, D. Strausz)
11:00AM	064167	CANCELLED
11:15AM	064168	Particle Size Distribution of PM Emitted from Cotton Harvesting , John D. Wanjura, USDAARS, College Station, TX (J.D. Wanjura, C.B. Parnell, B.W. Shaw, S.C. Capareda)
11:30AM	064169	Use of Particle Size Distributions When Determining PM-10 Concentrations for Animal Feeding Operations , Jennifer M. Lange, Texas A&M Univ, College Station, TX (J.M. Lange, C.B. Parnell)

Wednesday, July 12 – 9:30AM-12:00PM

316-SE-13A DAIRY MANURE MANAGEMENT - PART 1

(Sponsored by SE-403, SE-412)

Moderator: Curt A. Gooch, Cornell Univ, Ithaca, NY
Location: B113

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	064170	Procedures for Evaluating Un-designed Earthen Manure Storage Facilities in New York State , Peter E. Wright, NRCS, Syracuse, NY (P. Wright, C. Gooch, R. Young, D. Sullivan)
9:35AM	064170	Procedures for Evaluating Un-designed Earthen Manure Storage Facilities in New York State , Peter E. Wright, NRCS, Syracuse, NY (P. Wright, C. Gooch, R. Young, D. Sullivan)
9:50AM	064171	Drying Dairy Wastes for Organic Fertilizer Applications , Kyle P. Nester, Louisiana State University Agricultural Center, Baton Rouge, LA (Kyle P. Nester, Chandra S. Theegala)
10:05AM	064172	Parametric Studies for a Heat Transfer Model of an Anaerobic Digester , Kifle G. Gebremedhin, Cornell Univ, Ithaca, NY (K.G. Gebremedhin, S. Inglis, C. Gooch)
10:20AM	064173	CANCELLED
10:35AM	064174	Effects of Solid Dairy Manure Bulk Density on Gaseous Emissions during Storage , Werner Berg, Institute of Agricultural Engineering Bornim (ATB), Potsdam Brandenburg, Germany (W.E. Berg, I. Pазsiczki)
10:50AM		Break
11:00AM	064175	Evaluation of Selected New Technologies for Animal Waste Management , Lynn A. Lazenby, College Station, TX (L. Lazenby, S. Mukhtar, C. Gerngross, K. Wagner)
11:15AM	064176	Manure Management Program for California's Central Valley Dairies , David M. Crohn, Univ of California, Riverside, CA (M. Campbell-Matthews, D. M. Crohn)
11:30AM	064177	Characterization of Dairy-derived Biogas and Biogas Processing , Norman R. Scott, Cornell Univ, Ithaca, NY (N. Scott, S. Zicari, K. Saikonen, K. Bothi)
11:45AM	064178	Farm Management Challenges in Operating Dairy Manure Anaerobic Digesters , Daniel L. Scuton, Vermont Agency of Agricultural, Food, and Markets, Montpelier, VT – Presenter: Rob Achilles (R. Achilles, S. Weeks, D. Scuton)

Wednesday, July 12 – 9:30AM-12:00PM

317-SE-23 BIOMASS FOR HEAT AND POWER GENERATION

(Sponsored by SE-414, T-11, FPE-709)

Moderator: Amit Kumar, Univ of Alberta, Edmonton, AB Canada
Location: B112

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	064179	Status and Renewable Energy Impacts of Biomass Power Generation in California , Rizaldo E. Aldas, Univ of California Davis, Davis, CA (R.E. Aldas, C. Laszlo, R.B. Williams, M.C. Gildart, L. Yan, V.M. Tiangco, Z. Zhang, B.M. Jenkins)
9:50AM	064180	Characterization of Feed Streams and Emissions from Biomass Gasification/Combustion at Fuel Ethanol Plants , R Vance Morey, Univ of Minnesota, St Paul, MN (R.V. Morey, D. Hatfield, R. Sears, D. Tiffany)
10:05AM	064181	Feasibility of a Dedicated Power Generating System in a Cotton Gin Fueled by Cotton-By-Products , Sergio C. Capareda, Texas A&M Univ, College Station, TX (S. Capareda, L.B. Goodrich, C.B. Parnell, Jr., G. Holt, R. Walt, A. Lilley, J. Diebold)
10:20AM	064182	Integration of Gasification for Processing Biomass Residuals , Clifford B. Fedler, Texas Tech Univ, Lubbock, TX (C.B. Fedler)
10:35AM		Break
10:45AM	064183	Heating of Greenhouse with Biofuel Pellets , Oladiran O. Fasina, Auburn Univ, Auburn University, AL (D. Bransby, J. Sibley, C.H. Gilliam)
11:00AM	064184	Analysis of Dairy Biomass Properties for Use in Thermo-Chemical Conversion Technologies , Lee Barry Goodrich, Texas A&M University, College Station, TX (S.C. Capareda, S. Mukhtar)
11:15AM	064185	Successful Poultry Litter-to-Energy Furnace Developed , Darren K. Habetz, American Heat and Power LLC, Houston, TX (D. Habetz, R. Echols)
11:30AM	064186	A Conceptual Comparison of Biopower Generation Options , Amit Kumar, Univ of Alberta, Edmonton, AB Canada (A. Kumar)

Wednesday, July 12 – 9:30AM-12:00PM

318-SE-INV WIND POWER DEVELOPMENT PRINCIPLES

(Sponsored by SE-414)

Moderator: Stanley Solomon, Jr, Univ of Illinois, East Peoria, IL
Location: B119

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
		Wind farm development has become a major industry throughout the world. Addressing public concerns, assisting public policy development, and overcoming technical difficulties are just a few of the opportunities for engineers. Presented from an engineer's perspective, this workshop will offer a review and discussion of the principles involved in a successful wind farm development. The workshop will provide information and resources for anyone interested or involved in the many facets of wind farm development.
9:35AM		Wind Energy Fundamentals , R. Nolan Clark, USDA-Agricultural Research Service, Bushland, TX
10:20AM		Permitting, Environmental, and Community Relations , Don Bain, President, Aeropower Services, Inc., Camas, WA
11:05AM		Wind Farm Development Components , R. Nolan Clark, USDA-Agricultural Research Service, Bushland, TX

FOOD & PROCESS ENGINEERING INSTITUTE

Wednesday, July 12 – 9:30AM-12:00PM

319-FPE- NONDESTRUCTIVE QUALITY MEASUREMENTS FOR FRUIT AND VEGETABLE (Sponsored by FPE-701)

Moderator: Itzhak Shmulevich, Israel Inst of Tech, Haifa, Israel
Location:

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	066117	A Frequency-based Firmness Tester for Solid Fruits and Vegetables of Ellipsoidal Shape , An-Pan Cherng, National Ilan University, Ilan, Taiwan (A.-P. Cherng)
9:50AM	066118	Nondestructive evaluation of apple firmness by ultrasonic measurement , Jeong Gil Park, Chungnam National University, Daejeon, Chungnam, South Korea (M.S. Kim, J.G. Park, K.B. Kim, H.M. Jung, G.S. Kim, S.D. Lee)
10:05AM	066119	Study on the Machine Vision System of Pear Quality Testing and Grading , Dongping Qian, Agricultural University of Hebei, Baoding, Hebei, Peoples Republic of China (D. Qian)
10:20AM	066120	Apple Quality Evaluation using a Neural Network Based Electronic Nose and Nose , Changying Li, Penn State Univ, University Park, PA (C. Li, P. Heinemann)
10:35AM	066121	Nondestructive Detection of Internal Defect of Apple using Visible and Near Infrared Transmittance Spectroscopy , Youngwook Seo, Seoul National University, Seoul, South Korea (Y. Seo, S. Park, S.-h. Noh, K. Lee, S. Kang)
10:50AM		Break
11:00AM	066122	Correlating Honeydew Melon Quality with Dielectric Properties , Stuart O. Nelson, USDAARS, Athens, GA (S.O. Nelson, S. Trabelsi, S.J. Kays)
11:15AM	066123	The Use of Ultrasound as a Non-Destructive Test for Popcorn Old Maids , Christian Y. Whyson, Virginia Tech, Broad Run, VA (C. Whyson, K. Mallikarjuna)
11:45AM	066125	Application of NIR on Date Fruit Sorting , Mohammad Abounajmi, Khonj, Fars Iran (M. Abounajmi)

Wednesday, July 12 – 9:30AM-12:00PM

320-FPE-11 VALUE-ADDED FOOD PROCESSING (Sponsored by FPE-703)

Moderator: Kasiviswanathan Muthukumarappan, South Dakota State Univ, Sioux Falls, SD and Rafael A. Garcia, USDAARS, Wyncote, PA
Location: B117

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	066126	Effect of Edible Coatings and Power Ultrasound on Oxidative Stability of Roasted Peanuts during Accelerated Shelf Life Testing , Wade W. Yang, Alabama A&M Univ, Normal, AL (P. Wambura, W. Yang)
9:50AM	066127	Identification of Peanut Pods with Three or More Kernels by Machine Vision and Neural Networks , Wade W. Yang, Alabama A&M Univ, Normal, AL (Y. Wang, W. Yang, C. Butts)
10:05AM	066128	Supercritical CO2 Extrusion – Opportunities for Food and Biological Processing , Kurt A. Rosentrater, USDAARS, Brookings, SD (K.A. Rosentrater, K. Muthukumarappan, J. Julson)
10:20AM	066129	Modeling Extrusion Processing of Aquaculture Feed Incorporating Distillers Grains , Nehru Chevanan, South Dakota State Univ, Brookings, SD (N. Chevanan, K. Muthukumarappan, K.A. Rosentrater, J.L. Julson)
10:35AM	066130	Foam Fractionation of &#945;-lactalbumin and &#946;-lactoglobulin from a Whey Solution , Aubrey P. Shea, Univ of Kentucky, Lexington, KY (C. Crofcheck, A. Shea)
10:50AM		Break
11:00AM	066131	Bench Scale Heat Exchanger Fouling: Coated Surfaces , Hatice O. Ozden, Penn State Univ, University Park, PA (H.O. Ozden, H. Nasir, S. Junc, B. Na, V. Puri)
11:15AM	066132	Whey Protein Fractionation Using a Multistage Ultrafiltration System , Chenchaiah Marella, South Dakota State Univ, Brookings, SD (C. Marella, K. Muthukumarappan)
11:30AM	066133	Fractionation of the Rice Bran Layer for Value-Added Processing , Marybeth Lima, Louisiana State Univ, Baton Rouge, LA (M. Lima, A. Abadie, N. Hua, B. Schramm, C. Sabliov)
11:45AM	066134	CANCELLED
12:00PM	066135	Value Addition in Jackfruit (Artocarpus heterophyllus Lam.) , Jagadeesh Lingegowdaru, McGill University, Ste-Anne-de-Bellevue, QC Canada (S.L. Jagadeesh, K. Gorbali, B.S. Reddy, L. Hegde, G.S.K. Swamy, G.S.V. Raghavan)

Wednesday, July 12 – 9:30AM-12:00PM

321-FPE-20 BIODIESELISSUES (Sponsored by FPE-709, FPE-701)

Moderator: Czarena L. Crofcheck, Univ of Kentucky, Lexington, KY

Location: B116

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	066136	Combined Impact of Biodiesel and Exhaust Gas Recirculation on NOx Emissions, Alan C. Hansen, Univ of Illinois, Urbana, IL(S.J. Wenzel, A.C. Hansen, W.Yuan)
9:50AM	066137	Evaluation of Selected Additives to Biodiesel to Reduce NOx and PM Emissions, Michael D. Kass, Oak Ridge National Lab, Oak Ridge, TN (Mike Kass and Scott Sluder)
10:05AM	066239	On Farm Methods of Biodiesel Blend Detection, Justin Dubin, Agricultural Technology Centre, Lethbridge, AB Canada
10:20AM	066139	Effect of Novel Soy Biodiesel with High Oleic Acid on Engine Performance and Emissions, Paul S. Wang, Univ of Idaho, Moscow, ID (P.S. Wang, J. Van Gerpen, T. Clemente)
10:35AM	066140	Preparing to fuel with Biodiesel, Leon G. Schumacher, Univ of Missouri, Columbia, MO (L. Schumacher)
10:50AM	066141	Moisture Distribution in Biodiesel and Its Fossil Diesel Blends, Bingjun He, Univ of Idaho, Moscow, ID (B.B. He, D. Roult, J. Thompson)
11:05AM		Break
11:15AM	066142	An Update on Life Cycle Study of Soybean Oil Biodiesel Production, Anup Pradhan, University of Idaho, Moscow, ID (A. Pradhan, D.S. Shrestha)
11:30AM	066143	Evaluation of a Heterogeneous Catalyst for Improved Biodiesel Production, Czarena L. Crofcheck, Univ of Kentucky, Lexington, KY(J. Shumaker, C. Crofcheck; M. Crocker; M. Montross)
11:45AM	066144	Biodiesel Production from Salmon Oil, Hamed M. El-Mashad, Univ of California, Davis, CA(H.M. El-Mashad, R. Zhang, R.J. Avena-Bustillos)
12:00PM	066145	Karanja Biodiesel: As a Renewable Alternative Fuel for a Cleaner Environment, Chandan Kumar, Sri Mata Vaishno Devi University Indian Institute of Technology Delhi, Udhampur, Jammu & Kashmir India (C. Kumar, M. K. Gajendra Babu, L.M. Das)
12:15PM	066146	Physical Property Measurement of Biodiesel Fuels for Low Temperature Combustion Modeling, Jonathon P. McCrady, University of Illinois at Urbana Champaign, Champaign, IL(J. McCrady, A.C. Hansen, C.-F. Lee)
12:30PM	066147	Storability of Diesel-Ethanol Blends, Emmanuel Ato Ajav, Univ of Ibadan, Ibadan, Nigeria (E.A.Ajav, O.A. Akintobi)

Wednesday, July 12 – 9:30AM-12:00PM

322-FPE-21 BIOMASS PROPERTIES (Sponsored by FPE-709, FPE-701)

Moderator: Xiaofei Ye, Univ of Tennessee, Knoxville, TN

Location: B114

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	066148	Physical Properties Relationship of Bulk Corn Stover Particles, Klein E. Ileeji, Purdue Univ, West Lafayette, IN (B. Zhou, K.E. Ileeji)
9:50AM	066149	Flow Properties of Biomass Feedstocks, Oladiran O. Fasina, Auburn Univ, Auburn University, AL(O.O. Fasina, D. Bransby, C.W. Wood)
10:05AM	066150	Physical Properties of Pelletized Biomass, Eugene P. Columbus, Mississippi State Univ, Mississippi State, MS (E.P. Columbus, B.S. Baldwin, W.D. Batchelor, J.R. Wooten, G.D. Chesser, D.L. Trammell)
10:20AM	066151	Value of Distributed Preprocessing of Biomass Feedstocks to a Bioenergy Industry, Christopher T. Wright, Idaho National Laboratory, Idaho Falls, ID (C.T. Wright, P.A. Pryfogle, J.R. Hess)
10:35AM	066152	Wood Structure and Composition and Pellet Density, Parisa PZ Zaini, Univ of British Columbia, Vancouver, BC Canada (P. Zaini, S. Mani, S. Sokhansanj, X. Bi)
10:50AM	066153	Physical Properties of Particleboard Manufactured from Saline Creeping Wild Rye Residue of Anaerobic Digestion, Yi Zheng, Univ of California, Davis, CA(Y. Zheng, Z. Pan, R. Zhang, B.M. Jenkins, H. El-Mashad)
11:05AM		Break
11:15AM	066154	Determination of Optimum Extrusion Parameters in Compounding Flax Fiber-Reinforced Polyethylene Composites, Bruno Antonio C. Siaocong, Univ of Saskatchewan, Saskatoon, SK Canada – Presenter Lope Tabil(B.A. Siaocong, L.G. Tabil, S.A. Panigrahi, W.C. Crearer)
11:30AM	066155	Fast Biomass Compositional Analysis using Fourier Transform Near-Infrared Technique, Xiaofei Ye, Univ of Tennessee, Knoxville, TN (X.P. Ye, A.R. Womac, D.G. Hayes, S. Liu, L. Kline, S. Sokhansanj, S. Narayan)
11:45AM	066156	Determination of Kinetic Parameters of Thermal Degradation of Palm Oil Mill Biomass using Thermogravimetric Analysis and Differential Scanning Calorimetry, Keshav C. Das, Univ of Georgia, Athens, GA(J.A. Garcia, M.I. Garcia-Perez, K.C. Das)
12:00PM	066157	Rheological and Thermal Properties of Salmon Processing Byproducts, Hamed M. El-Mashad, Univ of California, Davis, CA(H.M. El-Mashad, B.-S. Chiou, R.J. Avena-Bustillos, P.J. Bechtel, T.H. McHugh, R. Zhang)
12:15PM	066158	Characteristics of North American Meat & Bone Meal Relevant to the Development of Non-Feed Applications, Rafael A. Garcia, USDAARS, Wyncote, PA (R.A. Garcia, K.A. Rosentrater, R.A. Flores)

BIOLOGICAL ENGINEERING

Wednesday, July 12 – 9:30AM-12:00PM

323-BE-6 INNOVATIVE REMEDIATION TECHNOLOGIES

(Sponsored by BE-24, SE-412, SW-26, SW-262)

Moderator: Stacy L. Hutchinson, Kansas State Univ, Manhattan, KS

Location: A105

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	067058	Catalytic Ozonation of Propanal using Metal Nanoparticle Impregnated Carbon, Praveen Kolar, Univ of Georgia, Athens, GA(P. Kolar, R. Ganagavaram, J.R. Kastner, C. Xu, A. Teja)
9:50AM		MOVED TO POSTERSESSION
10:05AM	067060	Enhanced Air Pollution Control by Coupling Catalytic Ozonation and Biofiltration, Praveen Kolar, Univ of Georgia, Athens, GA(P. Kolar, J.R. Kastner)
10:20AM		Break

10:30AM	067061	Reductive Detoxification of Chlorinated Dioxin and Furan Contaminants as a Bioremediation Approach, Donna E. Fennell, Rutgers University, New Brunswick, NJ (D.E. Fennell, F. Liu, E.-K. Son)
10:45AM	067062	Evaluation of Recirculating Water Technology for Treatment of Dairy Lagoon Water Evaluation of Recirculating Water Technology for Treatment of Dairy Lagoon Water, Kristen J. Hughes, Sustainable Conservation, San Francisco, CA
11:00AM	067063	Pervious Concrete for Solid/Liquid Separation and Waste Remediation, Joe D. Luck, Univ of Kentucky, Hanson, KY(S.R. Workman, S.F. Higgins, M.S. Coyne, J.D. Luck)

Wednesday, July 12 – 9:30AM-12:00PM

324-BE-11 ENVIRONMENTAL BIOCONVERSION PROCESSES

(Sponsored by BE-28, FPE-707, FPE-709, FPE-703)

Moderator: Thomas L. Richard, Penn State Univ, University Park, PA

Location: A104

TIME	PAPER #	PRESENTATION TITLE
9:30AM		Introduction
9:35AM	067064	Conversion of Landfill Leachate to Electricity Using Microbial Fuel Cells, Bethany A. Frew, Ohio State Univ, Columbus, OH (B.A. Frew, A.D. Christy)
9:50AM	067065	Hydrogen Production from Dairy Manure, Arvind Chandrasekar, Cornell Univ, Ithaca, NYZZ (A. Chandrasekar, V. Maston, N. Scott)
10:05AM	067066	Methane Production from Anaerobic Co-Digestion of Dairy Manure and Food Wastes, Rodrigo A. Labatut, Cornell Univ, Ithaca, NY(R.A. Labatut, M.E. Wright, N.R. Scott)
10:20AM	067067	Optimizing the Size of Anaerobic Digesters, Emad Ghafoori, Univ of Alberta, Edmonton, AB Canada (E. Ghafoori, P.C. Flynn)
10:35AM	067068	High Rate Anaerobic Digestion (A Case Study), Carl S. Hansen, Utah State Univ, East Garland, UT(C.S. Hansen, C.L. Hansen)
10:50AM		Break
11:00AM	067069	High Rate Anaerobic Digestion & Nutrient Recovery from Particulate Slurries, Dennis A. Burke, Cyclus Envirosystems, Olympia, WA(D.A. Burke)
11:15AM	067070	Anaerobic Digestion of Liquid Dairy Manure using Sequential Continuous Stirred Tank Reactors, Zhiyou Wen, Virginia Polytech & State Univ, Blacksburg, VA(Z. Wen, S. Chen)
11:30AM	067071	Biochemical Conversion of Herbaceous Biomass for Biogas Production, Rowena C.T. Romano, , Davis, CA(R.T. Romano)
11:45AM	067072	CANCELLED

POWER & MACHINERY

Wednesday, July 12 – 2:30PM-5:00PM

325-PM-1 PESTICIDE APPLICATION INFLUENCES ON IMPROVING SOYBEAN HEALTH (Sponsored by PM)

Moderator: Robert E. Wolf, Kansas State Univ, Manhattan, KS

Location: C120

TIME	PAPER #	PRESENTATION TITLE
2:30PM		Introduction
2:35PM	061160	Overview of Application Concerns for Improved Soybean Health, Robert E. Wolf, Kansas State Univ, Manhattan, KS (R. Wolf)
2:55PM	061161	Evaluation of Various Spraying Equipment for Effective Application of Fungicides to Control Asian Soybean Rust, Erdal Ozkan, Ohio State Univ, Columbus, OH (H.E. Ozkan, H. Zhu, R.C. Derksen, H. Guler, C. Krause)
3:15PM	061162	Effects of Nozzle Type and Carrier Application Rate on the Control of Leaf Spot Diseases of Soybean, H Mark Hanna, Iowa State Univ, Ames, IA(H.M. Hanna, A. Robertson, W.M. Carlton, R.E. Wolf)
3:35PM	061163	Nozzle Type Effect on Soybean Canopy Penetration, Robert E. Wolf, Kansas State Univ, Manhattan, KS (R.E. Wolf)
3:55PM		Break
4:05PM	061164	Development of a Canopy Opener to Increase Spray Deposition and Coverage Inside Soybean Canopies, Heping Zhu, USDAARS-Application Tech Res Unit, Wooster, OH (H. Zhu, R.C. Derksen, H.E. Ozkan, H. Guler, R.D. Brazee, M. Reding, C.R. Krause)
4:25PM	061165	Open Forum/discussion - Application Perspective on the Best Management Strategies for Improved Soybean Health

Wednesday, July 12 – 2:30PM-5:00PM

326-PM-17 REMOTE SENSING FOR PRECISION AGRICULTURE

(Sponsored by PM-54)

Moderator: Steven J. Thomson, USDAARS, Stoneville, MS

Location: C123

TIME	PAPER #	PRESENTATION TITLE
2:30PM		Introduction
2:35PM	061166	Calibration and Verification of Low-Cost Imaging Tools for Remote Sensing, Michael P. Sama, Univ of Kentucky, Lexington, KY(M.P. Sama, T. S. Stombaugh, B. K. Koostra)
2:45PM	061167	CANCELLED
2:55PM	061168	Use of Spectral Angle Mapper(SAM) and Hyperspectral Imagery for Yield Estimation, Chenghai Yang, USDAARS, Weslaco, TX (C. Yang, J.H. Everitt, J.M. Bradford)
3:05PM	061169	Development of Personal Remote Sensing System for an Extremely Narrow Area, Hiroshi Shimada, Akita Prefectural University, , Japan (H. Shimada, E. Shima, T. Nagayoshi)
3:15PM	061170	Spatial Approaches in Identifying the Effect of Nitrogen Treatment in Cotton on Vegetative Index, Sreekala G. Bajwa, Univ of Arkansas, Fayetteville, AR (S.G. Bajwa, M. Mozaffari)
3:25PM	061171	Fusion of IR and Multispectral Images in the Visible Range for Empirical and Model Based Mapping of Crop Water Status, Victor Alchanatis, Agricultural Research Organization, Bet Dagan, Israel (A.V. Meron, M. Tsipris, J. Naor, A. Harit, Z. Levin, Z. Cohen, S. Cohen Y)
3:35PM	061172	Fusion of Optical and InSAR DEMs: Improving the Quality of Free Data, Manoj Karkee, Iowa State University, Ames, IA(M. Karkee, M. Kusanagi)
3:45PM	061173	Fusion of Remotely Sensed Imagery and Minimal Ground Sampling for Soil Moisture Mapping, Amy L. Kaleita, Iowa State Univ, Ames, IA(A. Kaleita)

SOIL & WATER

- 3:55PM 061174 **Genetic Algorithms for Multi-temporal CLK Image Data Mining**, Haitao Xiang, Univ of Illinois, Urbana, IL (H. Xiang, L. Tian)
- 4:05PM 061175 **Mission Planning and Guidance for UAV Aerial Imaging**, Rodrigo S. Zandonadi, University of Kentucky, Lexington, KY (R.S. Zandonadi, T.S. Stoumbaugh, M. Sama, B.K. Koostra)
- 4:15PM 061176 **Remote Sensing of Soil Properties in Precision Agriculture: A Review**, Yu Feng Ge, Texas A & M University, College Station, TX (Y. Ge, J.A. Thomasson, R. Sui)
- 4:25PM 061177 **Using Technology to Develop Integrated Water Resource Management Schemes**, Owrang Kashef, FL West Coast RC&D, Orlando, FL (O. Kashef, L. Morton, B. Miller)
- 4:35PM 061178 **Automated Cotton Fiber Sampler for Determination of Fiber Quality Spatial Variability**, Suminto D Fili To, Mississippi State Univ, Mississippi State, MS – Presenter: Filip To (G.F. Sassenrath, F. To, J.R. Williford)
- 4:45PM 061179 **Experiences with GPS-triggered Multispectral and Thermal Imaging Systems for Accessible Aerial Platforms**, Steven J. Thomson, USDAARS, Stoneville, MS (S.J. Thomson, D.G. Sullivan)

Wednesday, July 12 – 2:30PM-5:00PM

327-PM-13 MILITARY AND INDUSTRIAL APPLICATIONS OF SOIL DYNAMICS (Sponsored by PM-45)

Moderator: Paul D. Ayers, Univ of Tennessee, Knoxville, TN
Location: C121

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|--|
| 2:30PM | | Introduction |
| 2:35PM | 061180 | Terrain mechanic for Tracked Vehicles , Randolph A. Jones, US Army Engineer Research and Development Center, Vicksburg, MS (R.A. Jones, P.W. Richmond, R.B. Ahlvin, P. Nunez) |
| 2:50PM | 061181 | Multibody Dynamic Simulation of Off-Road Vehicles for Load , Dick Kading, Coralville, IA (D. Kading) |
| 3:05PM | 061182 | Tire Force and Terrain Disturbance Measurements during Spiral and , Sally Shoop, Hanover, NH (S.A. Shoop, B. Coutermarsh, P. Ayers, A. Anderson, R. Affleck) |
| 3:20PM | 061183 | Soil Property Influence on Military Vehicle Impacts , Alan B. Anderson, US Army Engineer Research and Development Center (ERDC), Champaign, IL (A. Anderson, P. Ayers, C. Butler, Q. Li, C. Wu, H. Howard, P. Woodford) |
| 3:35PM | | Break |
| 3:45PM | 061184 | CANCELLED |
| 4:00PM | 061185 | Dynamic Interaction of Soil and Mechanical , Radhey Lal Kushwaha, Univ of Saskatchewan, Saskatoon, SK Canada (J. Liu, R.L. Kushwaha) |
| 4:15PM | 061186 | Surrogate Instrumented Mine Use for Developing Countermine , Christopher Newell, TARDEC, Warren, MI (C. Newell, R. Raper) |
| 4:30PM | 061187 | Soil Milling as a Solution to the Threat of Landmines , Gedalyahu Manor, Technion Israel Inst of Tech, Technion City, Israel (G. Manor) |
| 4:45PM | 061188 | The Future of Soil Dynamics , Carol Plouffe, Deere & Co, Moline, IL (C. Plouffe) |

Wednesday, July 12 – 2:30PM-5:00PM

328-PM-22 DEVELOPMENT AND PERFORMANCE OF FIELD MONITORS (Sponsored by PM-54, PM-23/7/1)

Moderator: Robert G. Hardin, IV, Texas A&M Univ, College Station, TX
Location: C124

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|--|
| 2:30PM | | Introduction |
| 2:35PM | 061189 | Correcting Grain Combine Mass Flow Delays through Sensor Fusion , Matthew W. Veal, Univ of Kentucky, Lexington, KY (M.W. Veal, S.A. Shearer) |
| 2:50PM | 061190 | Development of an Impact Type Electronic Weighing System for Processing Comatoes , Shrinivasa K. Upadhyaya, Univ of California Davis, Davis, CA (S. K. Upadhyaya, M. Shafiq, L. Garciano) |
| 3:05PM | 061191 | Fundamentals of the Picking Process when Harvesting Corn , Oliver Hensel, Kassel University, Witzenhausen, Germany (O. Hensel) |
| 3:20PM | 061192 | Development of a Yield Monitor for Citrus Fruits , Tony E. Grift, Univ of Illinois, Urbana, IL (T. Grift, R. Ehsani, K. Nishiwaki) |

Wednesday, July 12 – 2:30PM-5:00PM

329-PM-8 NEW DEVELOPMENT IN CULTURAL PRACTICES

(Sponsored by PM-42)

Moderator: Neil B. McLaughlin, Agriculture & Agri-Food Canada, Ottawa, ON Canada
Location: C122

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|---|
| 2:30PM | | Introduction |
| 2:35PM | 061193 | Planting at High Speeds , Brian T. Adams, Univ of Missouri, Centralia, MO (B.T. Adams, K. Wendte, M. Hanna) |
| 2:50PM | 061194 | Development of an Air-Cannon Puncher Precision Planter , Xu Ma, Jilin University at Nanling Campus, Changchun, Jilin, China (X. Ma, T. Grift) |
| 3:05PM | 061195 | Planter Presswheel Effects on Cotton Emergence in a Conservation Tillage System , Thomas R. Way, USDAARS, Auburn, AL (T.R. Way, T.S. Kornecki) |
| 3:20PM | 061196 | Evaluation of Five Sugar Cane Planters , Tomaz Caetano Ripoli, Univ of Sao Paulo, Piracicaba, Brazil (T.C.C. Ripoli, M.L.C. Ripoli, D.V. Casagrandi, B.Y. Ide) |
| 3:35PM | 061197 | Energy Inputs for Nine Tillage Systems in a Clay Loam Soil , Neil B. McLaughlin, Agriculture & Agri-Food Canada, Ottawa, ON Canada (N.B. McLaughlin, C.F. Drury, Y.X. Li, X. Yang, D.W. Reynolds, C. Tan, T. Welacky, G. Stewart) |
| 3:50PM | | Break |
| 4:00PM | 061198 | Use of Autosteering Guidance in Peanut Production , Calvin D. Perry, Univ of Georgia, Tifton, GA (C. Perry, J. Beasley, J. Williams) |
| 4:15PM | 061199 | Measurement and Mapping of Soil Penetration and Moisture Content in a Winter Wheat Crop by Using GPS Interfaced Instrumented Apparatus , Hipolito Ortiz-Laurel, Colegio De Postgraduados, Salinas de Hgo, Mexico (H. Ortiz-Laurel, S.K. Upadhyaya, L. Ortega-Garciano) |
| 4:30PM | 061200 | A Economic Review of Biomass Harvesting Practices , Brian T. Adams, Univ of Missouri, Centralia, MO |
| 4:45PM | 061201 | Harvest Efficiency of Winter Canola in Oklahoma , David Zavodny, Oklahoma State Univ, Perry, OK (D.L. Zavodny, R.K. Taylor, J.B. Solie, T.F. Peeper, B.H. Sanders) |
| 5:00PM | 061202 | An Innovative Vertical Axial-flow Threshing Machine Developed in China , Ji Ma, Maroubra, NSW, Australia |

Wednesday, July 12 – 2:30PM-5:00PM

330-SW-22 EFFECTS OF CLIMATE CHANGE, LAND USE, AND DISTURBANCE ON WATER QUALITY AND QUANTITY

(Sponsored by SW-21)

Moderator: Debasmita Misra, Univ of Alaska, Fairbanks, AK
Location: A105

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|---|
| 2:30PM | | Introduction |
| 2:35PM | 062284 | Hydrologic Impacts of Projected Land-Use in the Great Lakes Drainage Basin , Keith A. Cherkauer, Purdue Univ, West Lafayette, IN (K.A. Cherkauer, B. Pijanowski, L.C. Bowling) |
| 2:50PM | 062285 | Simulated Effects of Changing Land Use on the Shallow Aquifer of Nasunogahara Basin, Japan , Ali M. Elhassan, New Mexico Interstate Stream Commission, Santa Fe, NM (A. M. Elhassan, A. Goto, M. Mizutani) |
| 3:05PM | 062286 | The Effect of Vegetation on Simulated Differential Ice Accumulation in Non-Sorted Circles Ecosystems , Ronald Daanen, Univ of Alaska Fairbanks, Fairbanks, AK (R. Daanen, D. Misra, H. Epstein) |
| 3:20PM | 062287 | Spatial Variation of Groundwater Quality , Zhuping Sheng, Texas A&M Univ, El Paso, TX (Z. Sheng, N. Assadian, J. Villalobos, E.A. Gonzalez) |
| 3:35PM | 062288 | Soil Heterogeneity and the Hydrology of the Palouse Region , Erin Brooks, Univ of Idaho, Moscow, ID – Presenter: Jan Boll (E. Brooks, J. Kaufman, K. Ostrowski, J. Boll, P. McDaniel) |
| 3:50PM | | Break |
| 4:00PM | 062289 | A Prototype ARS Data System used for Modeling and Decision Support , Jin-Song Chen, USDA-ARS, El Reno, OK (J.-S. Chen, J.L. Steiner, M. Van Liew, E.J. Sadler) |
| 4:15PM | 062290 | Estimating the Water Quality Benefits of Conservation Practices-A Modeling Approach for National Assessment , Santhi Chinnasamy, Blackland Research Center, Temple, TX – Presenter: N. Kannan (C. Santhi, N. Kannan, M. Di Luzio, S. Potter, X. Wang, J.G. Arnold) |
| 4:30PM | 062291 | Modeling the Effects of Terracing and Nonferal Reservoirs on Water Supplies in the Republican River Basin above Hardy, Nebraska , Ayse Irmak, Univ of Nebraska, Lincoln, NE (A. Irmak, D.L. Martin, J.K. Koelliker) |
| 4:45PM | 062292 | Spatially Distributed Soil Erosion Prediction in a Watershed in Northern Idaho , Brian Crabtree, University of Idaho Biological and Agricultural Engineering, Moscow, ID (J. Boll, E. Brooks, K. Ostrowski, S. Dun, J. Wu) |

Wednesday, July 12 – 2:30PM-5:00PM

331-SW-23 MODELING AND UNCERTAINTY IN TMDLS

(Sponsored by SW-21)

Moderator: Rafael Munoz-Carpena, Univ of Florida, Gainesville, FL
Location: A106

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|---|
| 2:30PM | | Introduction |
| 2:35PM | 062293 | Modeling Tools for TMDL Development and Implementation: Presentation of the Collection , Rafael Munoz-Carpena, Univ of Florida, Gainesville, FL (R. Muñoz-Carpena, A. Shirmohammadi, G. Vellidis) |
| 2:50PM | 062294 | Modeling Sediment and Nutrients for TMDL Development and Implementation , Deva K. Borah, Illinois State Water Survey, Champaign, IL – Presenter: Gene Yagow (D. Borah, P. Barnes, K. Campbell, M. Dozier, E. Krug, W. Rosenthal, R. Rudra, A. Saleh, G. Yagow) |
| 3:05PM | 062295 | Use of Models and Bacteria Indicators for Assessing Pathogen Fate and Transport in the Environment to Establish TMDLs , Brian L. Benham, Virginia Tech, Blacksburg, VA (C. Baffaut, R. Zechoski, K. Mankin, Y. Pachepsky, A. Sadeghi, K. Brannan, M. Soupir, M. Habersack) |
| 3:20PM | 062296 | Methods for Establishing Dissolved Oxygen TMDLs , George Vellidis, University of Georgia, Tifton, GA (G. Vellidis, D. Bosch, B. Haggard, P. Barnes) |
| 3:35PM | 062297 | Application of Biological Indicators in TMDL Assessment and Implementation , Eugene R. Yagow, Virginia Tech, Roanoke, VA (G. Yagow, B. Wilson, P. Srivastava, C. Obropta) |
| 3:50PM | | Break |
| 4:00PM | 062298 | Uncertainty in TMDL Models , Adel Shirmohammadi, Univ of Maryland, College Park, MD (A. Shirmohammadi, I. Chaubey, D. Harmel, D. Bosch, C. Dharmasri, A. Sexton, M. Arabi, M.L. Wolfe, J. Frankenberger, C. Graff, R. Munoz-Carpena) |
| 4:15PM | 062299 | Economic Models for TMDL Assessment and Implementation , Edward Osei, Tarleton State Univ, Stephenville, TX (D. Bosch, C. Ogg, E. Osei, A. Stoecker) |
| 4:30PM | 062301 | Watershed Modeling Uncertainty from Spatial Rainfall Variability , Pushpa Tuppada, Kansas State Univ, Manhattan, KS (P. Tuppada, K. Mankin) |
| 4:45PM | 062300 | SWAT Stream Flow Predictions in the Upper Haw River Watershed of North Carolina , Manuel R. Reyes, North Carolina A&T State Univ, Greensboro, NC (M.R. Reyes) |

Wednesday, July 12 – 2:30PM-5:00PM

332-SW-24 URBAN STORMWATER BMPS (Sponsored by SW-22)

Moderator: Lawrence Mark Risse, Univ of Georgia, Athens, GA
Location: A107

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|---|
| 2:30PM | | Introduction |
| 2:35PM | 062302 | Stormwater BMP Research in Charlotte, NC , William F. Hunt, III, North Carolina State Univ, Raleigh, NC (W.F. Hunt, J.T. Smith, S. Jadlocki, J.M. Hathaway) |
| 2:50PM | 062303 | Aging Effects of Environmental Factors on Seven Rolled Erosion Control Products , Ming Han Li, Texas A&M Univ/Texas Trans Inst, College Station, TX (M.-H. Li, S. Khanna) |
| 3:05PM | 062304 | The Effect of Urban Stormwater BMPs on Runoff Temperature in Trout Sensitive Waters , Matthew P. Jones, North Carolina State Univ, Cary, NC (M.P. Jones, W.F. Hunt, J.T. Smith, J.M. Zink) |
| 3:20PM | 062305 | Engineering and Constructing Bioretention Cells , Rebecca Chavez, Oklahoma State Univ, Stillwater, OK (R.A. Chavez, G.O. Brown, D. Storm) |
| 3:35PM | 062306 | Evaluating Infiltration and Runoff from Urban Soils , Rose Mary Seymour, Univ of Georgia, Griffin, GA (R.M. Seymour) |
| 3:50PM | | Break |

- 4:00PM 062307 **Innovative Stormwater Treatment Practices in the Neuse and Tar-Pamlico Basins – a Partnership Between the North Carolina Ecosystem Enhancement Program and the Biological and Agricultural Engineering Department at North Carolina State University**, Julia C. Hunt, North Carolina Ecosystem Enhancement Program, Raleigh, NC (J.C. Hunt, J.M. Hathaway, W.F. Hunt, M.D. Recktenwald, R.A. Smith)
- 4:15PM 062308 **StormwaterDune Infiltration System forReducing Pollutant Loads from Ocean Outfalls**, Michael R. Burchell, II, North Carolina State Univ, Raleigh, NC (T. Bright, M.R. Burchell II, W.F. Hunt, J. Smith)
- 4:30PM 062309 **WinterHydrology and WaterQuality of a Bioretention Area**, Tone M. Muthanna, Norwegian Univ of Science & Technology, Trondheim, Norway (T.M. Muthanna, S.T. Thorolfsson)
- 4:45PM 062310 **Annual and Individual-Storm Green Roof StormwaterResponse Models**, Albert R. Jarrett, Penn State Univ, University Park, PA (A.R. Jarrett, W.F. Hunt, R.D. Berghage)

Wednesday, July 12 – 2:30PM-5:00PM

333-SW-25 WATER TABLE MANAGEMENT(CONTROLLED DRAINAGE/SUBIRRIGATION) FOR WATER QUALITY

(Sponsored by SW-23)

Moderator: Gary R. Sands, Univ of Minnesota, St Paul, MN
Location: A108

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|---|
| 2:30PM | | Introduction |
| 2:35PM | 062311 | Agricultural Drainage Management Systems and WaterQuality: a Literature Review , Gary R. Sands, Univ of Minnesota, St Paul, MN (M.J. Helmers, Kyle Riley) |
| 2:50PM | 062312 | CANCELLED |
| 3:05PM | 062313 | Field Evaluation of Drainmod forSimulating the Effects of Drainage Water Management , Srinivasulu Ale, Purdue University, West Lafayette, IN (S. Ale, L. Bowling, S. Brouder, J. Frankenberger) |
| 3:20PM | 062314 | Impact of Water Table Management on Soil Properties , Barbara J. Baker, USDAARS, Columbus, OH (N. Fausey, R. Islam) |
| 3:35PM | 062315 | Paired Field Analysis of Controlled Drainage Sites in Indiana , Roxanne K. Adeuya, Purdue Univ, West Lafayette, IN – Presenter: Jane Frankenberger (R.K. Adeuya, J.R. Frankenberger, L.C. Bowling) |
| 3:50PM | | Break |
| 4:00PM | 062316 | Impact of Water Table Management on Nitrate Loadings to Shallow Ground Water , Norman R. Fausey, USDAARS, Columbus, OH (N.R. Fausey) |
| 4:15PM | 062317 | WaterQuality Benefits of Shallow Drainage , Gary R. Sands, Univ of Minnesota, St Paul, MN – Presenter: Inhong Song (G.R. Sands, I. Song, L.M. Busman) |
| 4:30PM | 062318 | Evaluation of a Subsurface Drainage Model Using Soil Hydraulic Parameters Derived by Various Methods , Zhiming Qi, Iowa State Univ, Ames, IA (Z. Qi, M.J. Helmers, R. Singh) |
| 4:45PM | 062319 | Geomorphic Characteristics of Drainage Ditches in Southern Minnesota , Bradley J. Hansen, Univ of Minnesota, St Paul, MN – Presenter: Bruce N. Wilson (B.J. Hansen, B.N. Wilson, J.A. Magner, J.L. Nieber) |

Wednesday, July 12 – 2:30PM-5:00PM

334-SW-26 IRRIGATING WITH LIMITED AND REUSED WATER SUPPLIES

(Sponsored by SW-24)

Moderator: Norman L. Klocke, Kansas State Univ, Garden City, KS
Location: A109

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|--|
| 2:30PM | | Introduction |
| 2:35PM | 062320 | Stochastic Pert-Network forIrrigation Scheduling to ConsierUncertainty of Climate and OtherFactors , Jaemyung Lee, Seoul National Univ College of Agriculture and Life Sciences, Kwanak-gu, Seoul, South Korea (J.M. Lee; J.J. Lee) |
| 2:50PM | 062321 | Use of "Hydraulic Balanced Irrigation Schedule (HBIS)" Optimization Program to Cost Effectively Irrigate a Very Large Scale Tree Farm , Nabil Mohamed, Potlatch Corp, Boardman, OR (N. Mohamed) |
| 3:05PM | 062322 | Irrigation Scheduling Automation forCenterPivot Sprinklers , Jared K. Oswald, South Dakota State Univ, Volga, SD (J. Oswald; H. Werner; T. Trooien) |
| 3:20PM | 062323 | Limited Irrigation of Maize and Corn in Semi-Arid Eastern Mediterranean - Part I: Waterand Productivity and Management , Theib Y. Oweis, ICARDA, Aleppo, Syria (T. Oweis; M. Pala; H. Farahani; N. Katerji; A. Hachum) |
| 3:35PM | 062324 | Limited Irrigation of Maize and Cotton in Semi-Arid Eastern Mediterranean - Part II: WaterUse and Stress , Hamid J. Farahani, ICARDA-Irrigation & Water Management, Aleppo, Syria (H. Farahani; T. Oweis; A. Hachum; N. Katerji; A. Tubeileh; B. Benli) |
| 3:50PM | | Break |
| 4:00PM | 062325 | Case Study: Improvements in Control and WaterManagement Within the Greeley No. 2 Canal System , Amy L. Johnson, Aqua Engineering, Johnstown, CO (S. Smith; A. Johnson) |
| 4:15PM | 062326 | The Manatee Agricultural Resuse System (MARS): Evaluating a Sustainable Community WaterSystem in Manatee County, Florida , Owrang Kashef, FL West Coast RC&D, Orlando, FL (O. Kashef; L. Morton; B. Miller) |
| 4:30PM | 062327 | Effects of Denitrification on Land Irrigated with Wastewater , Clifford B. Fedler, Texas Tech Univ, Lubbock, TX (C. Fedler; C. Green) |
| 4:45PM | 062328 | Improving Moisture Storage in Sandy Soils forPlant Growth Using WaterAbsorbing Synthetic Polymers , John T. Adomako, Gifu Univ, Kwadaso Kumasi, Ghana (J. Adomako; M. Senge; B. Antwi) |

INFORMATION & ELECTRICAL TECHNOLOGIES

Wednesday, July 12 – 2:30PM-5:00PM

335-IET-17 ELECTROMAGNETIC SENSING

(Sponsored by IET-348)

Moderator: David B. Funk, USDAGIPSATS, Kansas City, MO
Location: C125

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|--|
| 2:30PM | | Introduction |
| 2:35PM | 063092 | Plant Biomass Estimation Using Dielectric Properties , Carol L. Jones, Oklahoma State Univ, Stillwater, OK (C. Jones; M. Stone; J. Solie; N. Maness) |
| 2:50PM | 063093 | Temperature, Density, and Moisture Dependence of Dielectric Properties of Grain and Seed Microwave Frequencies , Samir Trabelsi, USDAARS, Athens, GA (S. Trabelsi; S. Nelson) |

- 3:05PM 063094 **Unified Algorithm forMicrowave Sensing of Moisture in Grain and Seed**, Samir Trabelsi, USDAARS, Athens, GA (S. Trabelsi; S. Nelson)
- 3:20PM 063095 **An Inexpensive Noise Robust Circuit forthe Detection of Microsecond Fluorescence Lifetimes**, Daniel M. Jenkins, Univ of Hawaii, Honolulu, HI (C. Zhu; D. Jenkins; W. Su)

Wednesday, July 12 – 2:30PM-5:00PM

336-IET-12B BIOIMAGING AND MACHINE VISION FOR FOOD SAFETY, QUALITYAND PROCESSING - PART 2

(Sponsored by IET-312)

Moderator: Won Suk (Daniel) Lee, Univ of Florida, Gainesville, FL
Location: Oregon Ballroom 201

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|--|
| 2:30PM | | Introduction |
| 2:35PM | 063084 | Hyperspectral Imagery used to Assess Fungal Growth on Corn Kernels , Haibo Yao, Institute for Technology Development, Stennis Space Center, MS (H. Yao, Z. Hruska, K. DiCrispino, D. Lewis, J. Beach, R.L. Brown, T.E. Cleveland) |
| 2:50PM | 063085 | Low Cost ColorImage Based SorterforGrains , Tom Pearson, USDAARS GMPRC, Manhattan, KS (T. Pearson) |
| 3:05PM | 063086 | Magnetic Resonance Imaging Analysis of Moisture Migration in Rice Kernels , Ta-Te Lin, National Taiwan Univ, Taipei, Taiwan (T.-T. Lin, S.-S. Hwang, Y.-C. Cheng, C. Chang, H.-S. Lur) |
| 3:20PM | | Break |
| 3:30PM | 063087 | Sensitivity Analysis of Algorithms to Foreign Matterin Wheat , Abdul R. Tahir, Univ of Agriculture, Punjab, Pakistan – Presenter: Digvir Jayas (A.R. Tahir, S. Neethirajan, D.S. Jayas, J. Paliwal) |
| 3:45PM | 063088 | Fruit Shape Detection Based on Multi-scale Level Set Framework , Gui J. Sheng, Zhejiang University Dept. of Biosystems Eng. & Food Science, Hangzhou, Peoples Republic of China (J. Gui, Y. Ying) |
| 4:00PM | 063089 | The Development of an Automatic Measurement System of Outward Appearance Features forGrafted Tomato Seedlings , Yi-Chieh Chiu, National ILan University, Ilan, Taiwan (Y.-C. Chiu, M.-Y. Chang, G.-J.Wu) |

STRUCTURES & ENVIRONMENT

Wednesday, July 12 – 2:30PM-5:00PM

337-SE-12B TECHNOLOGIES FOR CHARACTERIZING AND MITIGATING EMISSIONS FROM STATIONARY SOURCES II

(Sponsored by SE-305)

Moderator: Kenneth D. Casey, Texas Agricultural Experiment Station, Amarillo, TX
Location: B110

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|---|
| 2:30PM | | Introduction |
| 2:35PM | 064187 | Effects of Heavy Application of LitterAmendment on BroilerHouse Ammonia Emissions , John W. Worley, Univ of Georgia, Athens, GA (B. Fairchild, J. Worley, M. Czarick, C. Ritz) |
| 2:50PM | 064188 | Reduction of Ammonia Emission from Stored Poultry Manure Using Additives: Zeolite, Alum and Ferix-3 , Hong Li, Iowa State Univ, Ames, IA (H. Li, H. Xin, Y. Liang, R. Burns) |
| 3:05PM | 064189 | Comparison of Three Measurement Techniques forDetermination of NH3 Emission Flux from BroilerLitter , Lingjuan Wang, North Carolina State Univ, Raleigh, NC (L. Wang, Z. Liu, R. Munilla, D. Beasley, E. Oveido, G. Baughman) |
| 3:20PM | 064190 | A Comparison of SulfurDioxide Concentrations in Exhaust Gases of Biodiesel Blends , Jacob J. Powell, Texas A&M, College Station, TX (J. Powell, S. Capareda, C.B. Parnell, Jr.) |
| 3:35PM | | Break |
| 3:45PM | 064191 | Minimizing Pit Emissions from Pig Barns to Optimize "Catch and Treat" Mitigation Technologies like Biofilters , Larry D. Jacobson, Univ of Minnesota, St Paul, MN (L. Jacobson, B. Hetchler, V. Johnson, C.J. Clanton, D. Schmidt) |
| 4:00PM | 064192 | CANCELLED |
| 4:15PM | 064193 | Demonstration of Straw FilterforEmissions from Mushroom Substrate , Kenneth M. Lomax, Univ of Delaware, Newark, DE (K.M. Lomax) |
| 4:30PM | 064194 | Biodegradation Kinetics of Aldehyde Gas Mixtures , Li Wang, University of Georgia Biological and Agricultural Engineering, Athens, GA (L. Wang, J. Kastner, Z. Shareefdeen) |

Wednesday, July 12 – 2:30PM-5:00PM

338-SE-13B DAIRY MANURE MANAGEMENT

(Sponsored by SE-403, SE-412)

Moderator: Rodney K. Rinehart, Curry-Wille & Assoc, Ames, IA
Location: B113

- | TIME | PAPER # | PRESENTATION TITLE |
|--------|---------|--|
| 2:30PM | | Introduction |
| 2:35PM | 064195 | Design of Animal Slurry Manure Field Spreading Machine Model Suited to Small Scale Crop Production Farms , Kwang-Jae Choe, National Institute of Agricultural Engineering, Suwon, Kyunggi, South Korea (K.J. Choe, K.Y. Oh, B.K. Yu, H.J. Park) |
| 2:50PM | 064196 | Feasibility of Digesting Sand Laden Dairy Manure , Scott F. Inglis, Cornell Univ, Ithaca, NY (S.F. Inglis, C.A. Gooch, M.B. Timmons) |
| 3:05PM | 064197 | Sequencing Batch Treatment of Milk House Wastewater , Anshu Singh, Univ of Kentucky, Lexington, KY (A. Singh, C. Crofcheck, G.M. Brion) |
| 3:20PM | 064198 | Economic Analysis Model fora Centralized Anaerobic Digestion System , Curt J. Minchoff, Cornell University, Ithaca, NY (C.J. Minchoff, K.G. Gebremedhin) |
| 3:35PM | | Break |
| 3:45PM | 064199 | Reduction of Lagoon Loading by Solid Waste Separation using a Stationary Inclined Gravity Screen , Jason M. Jordan, Louisiana State Univ, Baton Rouge, LA (J. Jordan, C. Theegala) |
| 4:00PM | 064200 | Phosphorus Reduction in Dairy Effluent through Flocculation , Tianxi Zhang, Washington State University, Pullman, WA (T. Zhang, K.E. Bowers, J.H. Harrison, S. Chen) |
| 4:15PM | 064201 | Anaerobic DigesterSystem Monitoring Projects in New York State - an Update , Curt A. Gooch, Cornell Univ, Ithaca, NY (C.A. Gooch, S.F. Inglis, P.E. Wright) |
| 4:30PM | 064202 | Improving the Economic Viability of Anaerobic Digestion , David M. Belcher, Cornell University, Ithaca, NY (D.M. Belcher, M.B. Timmons) |

FOOD & PROCESS ENGINEERING INSTITUTE

Wednesday, July 12 – 2:30PM-5:00PM

339-FPE-16 ADVANCES IN FOOD AND ORGANIC WASTE MANAGEMENT AND UTILIZATION

(Sponsored by FPE-707, BE-28, FPE-709, SE-412)
 Moderator: Kurt A. Rosentrater, USDAARS, Brookings, SD
 Location: B117

TIME	PAPER #	PRESENTATION TITLE
2:30PM		Introduction
2:35PM	066159	Study of Poultry Manure to Use in Agriculture , Maria Del Mar Delgado, INIA Environment Department, Madrid, Spain (M Delgado, J.V. Martin, R. Miralles de Imperaisl)
2:50PM	066160	Anaerobic Batch Digestion of Saline Biomass: Effect of Bulk Density on Biogas Yield , Hamed M. El-Mashad, Univ of California, Davis, CA (H.M. El-Mashad, Y. Zheng, R. Zhang, Z. Pan, B.M. Jenkins)
3:05PM	066161	Anaerobic Codigestion of Food Waste and Dairy Manure , Hamed M. El-Mashad, Univ of California, Davis, CA (H.M. El-Mashad, R. Zhang, I. Frydman)
3:20PM	066162	Cost Effective Anaerobic Digestion for Treating Manure and Food Waste , Carl S. Hansen, Utah State Univ, East Garland, UT (D.-Y. Cheong, C.S. Hansen, C.L. Hansen)
3:35PM	066163	Thermophilic High-Solids Anaerobic Digestion of Sugar-Beet Tailings , Pratap C. Pullammanappallil, Univ of Florida, Gainesville, FL (P.C. Pullammanappallil, I. Pokematidis, A.K. Koppa, K. Johanson, R. Legrand, D.P. Chynoweth, A. Teixeira)
3:50PM		Break
4:00PM	066164	Physical and Chemical Properties of Distillers Dried Grains with Solubles (DDGS) , Kurt A. Rosentrater, USDAARS, Brookings, SD (K.A. Rosentrater)
4:15PM	066165	Sorption Isotherms of Dried Distillers Grains with Solubles (DDGS) , Vykundeshwari Ganesan, South Dakota State Univ, Brookings, SD (G. Vykundeshwari, K. Muthukumarappan, K. Rosentrater)
4:30PM	066166	Fractionation Techniques to Concentrate Nutrient Streams in Distillers Grains , Deepa Subramanian, South Dakota State Univ, – Presenter Kurt A. Rosentrater (D. Subramanian, K.A. Rosentrater, P.G. Krishnan)
4:45PM	066167	Anaerobic Digestion Potential for Distillers Dried Grains with Solubles (DDGS) , Kurt A. Rosentrater, USDAARS, Brookings, SD (K.A. Rosentrater, C. Hansen)

Wednesday, July 12 – 2:30PM-5:00PM

340-FPE-22 BIOMASS FEEDSTOCK ENGINEERING ISSUES

(Sponsored by SE-709, PM-23/7/2)
 Moderator: Klein E. Ileleji, Purdue University, West Lafayette, IN
 Location: B116

TIME	PAPER #	PRESENTATION TITLE
2:30PM		Introduction
2:50PM	066169	Analysis of Biomass Comminution and Separation Processes in Rotary Equipment - A Review , Petre Miu, Univ of Tennessee, Knoxville, TN (P.I. Miu, A.R. Womac, I. Cannayen, S. Sokhansanj)
3:05PM	066170	Linear Knife Grid Application for Biomass Size Reduction , Igathinathane Cannayen, Univ of Tennessee, Knoxville, TN (C. Igathinathane, A.R. Womac, P.I. Miu, M. Yu, S. Sokhansanj, S. Narayan)
3:20PM	066171	Engineering High-Fidelity Residue Separations for Selective Harvest , Kevin L. Kenney, Idaho National Laboratory, Idaho Falls, ID (K.L. Kenney, C.T. Wright, R.L. Hoskinson, J.R. Hess, D. Muth Jr.)
3:35PM	066172	High-specified Separation of Biomass Materials by Sieving , Yuechuan Yang, Univ of Tennessee, Knoxville, TN (Y. Yang, A.R. Womac, P. Miu)
3:50PM		Break
4:00PM	066173	Volume Reduction Technologies for Transporting Poultry Litter , John P. Fulton, Auburn Univ, Auburn University, AL (J.P. Fulton, O.O. Fasina, C.W. Wood, W.F. Owsley, P. Srivastava)
4:15PM	066174	Densification Characteristics of Corn Stover and Switchgrass , Nalladurai Kaliyan, Univ of Minnesota, St Paul, MN (N. Kaliyan, R.V. Morey)
4:30PM	066175	Mechanical Properties of Selected Biomass Grinds , Mark D. Shaw, Univ of Saskatchewan, Saskatoon, SK Canada (M. Shaw, L. Tabil)
4:45PM	066176	Dynamic Simulation of Biomass Densification Process , Sudhagar Mani, Univ of British Columbia, Vancouver, BC Canada (S. Mani, S. Sokhansanj, X. Bi)
5:00PM	066177	Analysis of Transportation-Logistics Scenarios of Corn Stover to Ethanol Conversion using Simulation , Klein E. Ileleji, Purdue Univ, West Lafayette, IN (A. Mukunda, K.E. Ileleji)

Wednesday, July 12 – 2:30PM-5:00PM

341-FPE-23 QUALITY DETECTION AND POSTHARVEST HANDLING OFFRUIT AND VEGETABLES

(Sponsored by FPE-712)
 Moderator: Renfu Lu, USDAARS, East Lansing, MI
 Location: B119

TIME	PAPER #	PRESENTATION TITLE
2:30PM		Introduction
2:35PM	066178	Optical Scattering Property for Predicting the Fruit Quality , Jong Wan Lee, Hankyong National Univ, Clemson, SC (J.W. Lee, G. Yao)
2:50PM	066179	Measurement of Optical Properties of Apples by Hyperspectral Diffuse Reflectance for Assessing Fruit Quality , Renfu Lu, USDAARS, East Lansing, MI (R. Lu, J. Qin, H. Noh, and Y. Peng)
3:05PM	066180	Nondestructive Determination of Internal Quality in Clingstone Peaches , David C. Slaughter, Univ of California Davis, Davis, CA (D.C. Slaughter, C.H. Crisosto)
3:20PM	066181	Study on the Discrimination of Pear Variety by Using Near Infrared Spectroscopy , Xiaping Fu, Zhejiang Univ, Hangzhou, Zhejiang Peoples Republic of China (X. Fu, Y. Ying)
3:35PM	066182	Integration of Hyperspectral Reflectance and Laser Induced Fluorescence for Assessing Apple Maturity , Hyun Kwon Noh, USDAARS, East Lansing, MI (H.K. Noh, R. Lu)
3:50PM	066183	Detecting Maturity of Mango using Hyperspectral Imaging Technique , Sivakumar S. Servakaranpalayam, Agricultural Eng College & Res Institute, Tamil Nadu, India (S.S. Sivakumar, J. Qiao, Y. Gariépy, N. Wang, G.S.V. Raghavan)
4:05PM		Break
4:15PM	066184	Analyses of Ripening Process in Tomatoes Using Chemical Shift Magnetic Resonance Imaging , Yu-Che Cheng, National Taiwan University, Taipei, Taiwan (Y.-C. Cheng, T.-T. Lin, T.-T. Wang, J.-H. Chen, C.-F. Chien)

4:30PM	066185	Bruise Detection on Tomatoes based on the Light Scattering Images , Juan Xing, Katholieke Univ of Leuven, Heverlee, Leuven Belgium (J. Xing, J. De Baerdemaeker)
4:45PM	066186	Vibration Characteristics of the Korean Pears in Corrugated Fiberboard Container for Packaging at Simulated Transportation Environment , Ghi Seok Kim, Chungnam National Univ, Daejeon, South Korea (M.S. Kim, G.S. Kim, H. M. Jung, K.B. Kim)
5:00PM	066187	New Method for Determination of Cushion Curves of Packaging Cushion Materials for Agricultural Products , Hyun Mo Jung, Kyungbuk College of Science, Kyungbuk, South Korea (M.S. Kim, H.M. Jung, G.S. Kim, K.B. Kim)
5:15PM	066188	Suspended Tray Package for Shipping Soft Fruit , James Floyd Thompson, Univ of California Davis, Davis, CA (D.C. Slaughter, J.F. Thompson)

Wednesday, July 12 – 2:30PM-5:00PM

342-FPE-INV FOOD ENGINEERING EDUCATION: SETTING THE PACE FOR THE COMING YEARS

(Sponsored by FPE-80)
 Moderator: Kumar Mallikarjunan, Virginia Tech, Blacksburg, VA
 Location: B118

TIME	PAPER #	PRESENTATION TITLE
2:30PM		Introduction The Education subcommittee (FPE-80) has planned the symposium to address the status of Food and Bioprocess Engineering Education and its future direction. A wide range of topics will cover the curriculum development, pedagogical issues, continuing education needs and creative teaching methods in food engineering courses.
2:35PM		State of the Food Engineering Program , Kurt Rosentrater, USDA-ARS, Brookings, SD, Results from the surveys conducted by FPE-80 on food engineering programs at various universities and student perspectives.
3:05PM		Problem Based Approach to Developing an Engineering Curriculum (Curriculum changes) , Kumar Mallikarjunan, Virginia Tech, Blacksburg, VA A discussion of recent experiences in developing a theme based spiral curriculum in bioprocess engineering and how that relates to food engineering around the country.
3:35PM		Pedagogical issues in Engineering Education , Kamyar Haghighi, Purdue University, West Lafayette, IN Highlights of the Engineering Education Department at Purdue University and how it relates to engineering education as whole will be discussed. Food/ag/bio engineering disciplines will be emphasized.
4:05PM		Professional Engineering Issues in Bio/Food Engineering and Industry Needs , Terry Howell, McKee Foods, Collegedale, TN Issues related to preparing food engineers for licensure will be discussed in addition to the skill sets required for industry-bound engineers.
4:35PM		Creative teaching in Bio/Food Engineering , Scott Osborn, University of Arkansas, Fayetteville, AR Case studies involved in using creating teaching tools in biological and food engineering subjects and pedagogical issues related to creative teaching methods.

BIOLOGICAL ENGINEERING

Wednesday, July 12 – 2:30PM-5:00PM

343-BE-9 BIOPROCESSING FOR VALUE-ADDED PRODUCTS

(Sponsored by BE-28)
 Moderator: Mark R. Wilkins, Oklahoma State Univ, Stillwater, OK
 Location: A104

TIME	PAPER #	PRESENTATION TITLE
2:30PM		Introduction
2:35PM	067073	Application of Non-chromatographic Methods in Recombinant Protein Purification from Transgenic Plants , Chenming Zhang, Virginia Polytechnic Inst & State Univ, Blacksburg, VA (C. Zhang)
2:50PM	067074	Effect of Rice Extract Impurities on Human Lysozyme Purification , Lisa R. Wilken, Texas A&M Univ, College Station, TX (L.R. Wilken, Z.L. Nikolov)
3:05PM	067075	Correlation of Process Parameters to Foam Properties in a Foam Fractionation Column Using Polarized Light Scattering , Janakiraman N. Swamy, Univ of Kentucky, Lexington, KY (J.N. Swamy, C. Crofcheck, M.P. Mengüç)
3:20PM	067076	Ethanol Production as affected by Sorghum Chemical Composition, Chemical Structure and Physical Properties , Xiaorong Wu, Kansas State Univ, Manhattan, KS (X. Wu, R. Zhao, D. Wang, S. Bean)
3:35PM	067077	Ethanol Production from Pearl Millet by Using Saccharomyces cerevisiae , Xiaorong Wu, Kansas State Univ, Manhattan, KS (X. Wu, D. Wang, S.R. Bean, J.P. Wilson)
3:50PM		Break
4:00PM	067078	Production of Three-Carbon Compounds by Metabolically Engineered Escherichia coli , Mark A. Eiteman, Univ of Georgia, Athens, GA (Y. Zhu, M.A. Eiteman, E. Altman)
4:15PM	067079	Lactic Acid Production from Cheese Whey using Free Cell of B. Longum , Abolghasem Shahbazi, North Carolina A&T State Univ, Greensboro, NC (Y. Li, A. Shahbaiz, S. Coulibaly, M. Mims)
4:30PM	067080	Pelletization and Associated Strategies for Improving Fermentative Production of Lactic Acid by Filamentous Fungus , Shulin Chen, Washington State Univ, Pullman, WA (S. Chen, Y. Liu)
4:45PM	067081	Semi-Continuous Production of Lactic Acid from Cheese Whey Using Integrated Membrane Reactor , Yebo Li, North Carolina A&T State Univ, Greensboro, NC (Y. Li, A. Shahbazi, M.M. Mims)
5:00PM	067082	LED Light Penetration and Intensity Quantification for Algae Growth in a Photobioreactor (PBR) , Anil R. Kommareddy, South Dakota State Univ, Brookings, SD (A.R. Kommareddy, G.A. Anderson)