10th International Livestock Environment Symposium with 1st U.S. Precision Livestock Farming Symposium

DoubleTree by Hilton, Downtown Omaha, Nebraska
September 25-27, 2018

PROGRAM
Subject to Change
As of 8/17/2018

Monday, September 24
2:00PM - 6:00PM Registration

Tuesday, September 25
7:00AM - 5:00PM Registration
8:30AM - 10:00AM Opening Session
   8:30AM Keynote Speaker, Director Steve Wellman, Nebraska Department of Agriculture
   9:00AM ILES Founders, Dr. James DeShazer, Professor Emeritus, University of Idaho, Retired P.E. and Dr. Leroy Hahn, P.E. ILES: Rational Environmental Management of Livestock-Foundation, Accomplishments and Future
10:00AM - 10:30AM BREAK
10:30AM - 12:00PM Four concurrent sessions
   Animal Responses to Environment-Space, Flooring and Bedding Effects
   Precision Livestock Farming-Modeling
   Air Quality – Measurement and Abatement of Aerial Pollutants-Ammonia
   Precision Livestock Farming-Modeling Airflow – CFD Applications
12:00PM - 1:30PM Luncheon with Keynote Speaker, Larry J. Sadler, Vice President of Animal Welfare, United Egg Producers. Animal Welfare Issues Facing the U.S. Egg Industry
1:30PM - 3:00PM Three concurrent sessions
   Animal Responses to Environment-Response to Thermal Environment
   Precision Livestock Farming-Autonomous or Robotic System
   Air Quality – Measurement and Abatement of Aerial Pollutants-Ammonia
3:00PM - 3:30PM BREAK
Panel Discussion—Collaborative Visions: Advancing Solutions for Modern Livestock and Poultry Production
Panelists:
- Dr. Tom Field, Moderator, University of Nebraska
- Dr. Bob Collier, University of Arizona
- Dr. Daniel Berckmans, KU Leuven
- Sarah Pillen, Pillen Family Farms
- Amy Staples, Adams Land and Cattle
- J.T. Dean, Versova/Trillium
- Dr. Locke Karriker, Iowa State University

Networking Reception

WEDNESDAY, SEPTEMBER 26
7:00AM - 4:00PM Registration
8:00AM - 9:30AM Three concurrent sessions
  - Animal Responses to Environment—Building and Thermal Control Systems
  - Precision Livestock Farming—Image Analysis
  - Air Quality—Measurement and Abatement of Aerial Pollutants—Greenhouse Gas
9:30AM - 11:00AM Poster Session & coffee break – All posters will be available at this time.
  - Animal Responses to Environment—POSTER SESSION
  - Precision Livestock Farming—POSTER SESSION
  - Air Quality—Measurement and Abatement of Aerial Pollutants—POSTER SESSION
11:00AM - 12:30PM Three concurrent sessions
  - Animal Responses to Environment—Ventilation and Cooling Systems
  - Precision Livestock Farming—Disease or Stress Detection
  - Air Quality—Measurement and Abatement of Aerial Pollutants—Particulate Matter & Microbes
12:30PM - 2:00PM Lunch break – on your own
2:00PM - 3:30PM Three concurrent sessions
  - Animal Responses to Environment—Lighting Systems and Effects
  - Precision Livestock Farming—RFID Applications
  - Air Quality—Measurement and Abatement of Aerial Pollutants—Particulate Matter & Microbes
3:30PM - 4:00PM BREAK
SESSION DETAILS
As of 8/17/18
TENTATIVE SCHEDULE

Animal Responses to Environment-Space, Flooring and Bedding Effects

Tuesday, 10:30am - 12:00pm - Room: Missouri
ILES18-003  Sand Bedding for Dairy Cows: Benefits, Cubicles, and Manure Handling
Presenting Author: Andrew W. Wedel, P.E., McLanahan, Hollidaysburg, Pennsylvania; Andrew Wedel
ILES18-103  Floor cleanliness in dairy freestall barns Presenting Author: Geir Naess, Nord University, Steinkjer Norway; Knut Egil Boe, Lars Erik Ruud
ILES18-019  Production of recycled manure solids used as bedding for dairy cows in Canada: analysis of solid-liquid separation and composting methods Presenting Author: Stephane Godbout, Universite Laval, Quebec City, Quebec Canada; Sebastien Fournel, Stephane Godbout, Pierre Ruel, Annie Fortin, Karine Duquette-Lozeau, Valerie Letourneau, Mylene Genereux, Joanie Lemieux, Denis Potvin, Caroline Cote, Caroline Duchaine, Doris Pellerin
ILES18-097  Farrowing pens for loose sows and floor cleanliness Presenting Author: Knut Egil Boe, Norwegian University of Life Sciences, As Norway; Knut Egil Boe, Greg Cronin, Evelyn Hall
ILES18-013  Responses of Laying Hens to Full vs. Partial Litter Access in Aviary Housing
Presenting Author: Jofran Oliveira, Iowa State University, Ames, Iowa; Jofran Oliveira, Hongwei Xin
ILES18-002  Modern sheep barns in cold climate - preference by shorn sheep for different types of slatted flooring Presenting Author: Grete H.M. Jorgensen, NIBIO, Tjotta, Nordland Norway; Juni Rosann Engelien Johanssen, Knut Egil Boe

Precision Livestock Farming-Modeling
Tuesday, 10:30am - 12:00pm - Room: Iowa
ILES18-157  
**Results of Precision Livestock Farming technology in Europe**
Presenting Author: Daniel Berckmans, Catholic University Leuven, Leuven Belgium; Daniel Berckmans, Tomas Norton

ILES18-133  
**Real-time grower-finisher pigs growth monitored and forecasted using a Dynamic Linear Regression model**
Presenting Author: Daniel Berckmans, KU Leuven, Leuven, Vlaams-Brabant Belgium; Alberto Pena Fernandez, Tomas Norton, Erik Vranken, Daniel Berckmans

ILES18-030  
**Study on the division of pig different growth phases from body measurements based on LabVIEW**
Presenting Author: Guanghui Teng, China Agricultural University, Beijing China; Chen Shi

ILES18-042  
**Autoregressive model to identify anomalous decreases in feeding time of grow-finish pigs**
Presenting Author: Felix Adrion, University of Hohenheim, Stugartt Germany; Felix Adrion, Tami Brown-Brandl, David Jones, Eva Gallmann

ILES18-043  
**Using an artificial neural network to predicting pig weight from depth images**
Presenting Author: Isabella Condotta, ESALQ /USP; Isabella Condotta, Tami Brown-Brandl, Kesia Oliveira da Silva Miranda, Rafael Vieira de Sousa

ILES18-004  
**Evaluating a LiDAR sensor and artificial neural network based-model to estimate cattle live weight**
Presenting Author: Rafael Vieira de Sousa, University of Sao Paulo, Pirassununga, SP Brazil; Rafael Vieira de Sousa, Rubens Andre Tabile, Ricardo Yassushi Inamasu, Luciane Silva Martelo

Air Quality - Measurement and Abatement of Aerial Pollutants-Ammonia

Tuesday, 10:30am - 12:00pm - Room: Nebraska

ILES18-137  
**Unintended impacts on animal welfare and environment of combined farm animal housing with manure storage**
Presenting Author: Eileen Fabian-Wheeler, Penn State University, University Park, Pennsylvania; Eileen Fabian-Wheeler

ILES18-114  
**Effect of Ferric Sulfate Application on Clostridium spp in Poultry Litter**
Presenting Author: Hong Li, University of Delaware, Newark, Delaware; Hong Li, Amy Biddle

ILES18-078  
**Use of aluminum sulfate (alum) to reduce ammonia emissions from cattle bedded manure packs**
Presenting Author: Mindy J. Spiehs, USDA ARS US Meat Animal Research Center, Clay Center, Nebraska; Mindy J. Spiehs

ILES18-071  
**Improving Air Quality for Animals and Humans with Renewable Energy and Nutrient Conservation**
Presenting Author: John A. George, P.E., Agricultural Engineering Associates, Inc, Uniontown, Kansas; Richard Mattocks, Mark Moser, John Paul Smith, Rick Thomas

ILES18-061  
**Impact of slatted floor on ammonia emissions in fattening swine housing**
Presenting Author: Joahnn H. Palacios, IRDA-Research and Development Institute for the Agri-Environment, Quebec, Quebec Canada; Joahnn H. Palacios, Stephane Godbout, Sebastien Turcotte, Marie-Aude Ricard

ILES18-052  
**Ammonia and Size Fractioned Particulate Matter Emission Factors for a Cage-Free Layer Facility in Canada**
Presenting Author: Patrick K. McGrath, University of Guelph, Guelph, Ontario Canada; Jaime E. Anderson, Patrick K. McGrath, Hanna A. Ivankovic, Bill J. Van Heyst

Precision Livestock Farming-Modeling Airflow - CFD Applications

Tuesday, 10:30am - 12:00pm - Room: Lewis
ILES18-145  **Modeling Hen House Ventilation Options for Cage-free Environment: Two-Dimensional Case** Presenting Author: Eileen Fabian-Wheeler, Penn State University, University Park, Pennsylvania; Eileen Fabian-Wheeler, Long Chen, Dan Hofstetter, Paul Patterson, John Cimbala

ILES18-121  **Optimal sensor placement for temperature monitoring inside broiler houses** Presenting Author: Sang-yeon Lee, Seoul National University, Seoul Korea; Uk-hueon Yeo, In-bok Lee, Rack-woo Kim, Sang-yeon Lee, Gwanyong Park

ILES18-020  **Analysis of aerodynamic problems of domestic swine houses and development of educational VR simulator** Presenting Author: Jun-Gyu Kim, Seoul National University, Seoul Korea; Ha Tae-Hwan

ILES18-058  **Optimal Placement and Size of the Baffles used to Direct Airflow in Mechanically-Ventilated Dairy Housing – A Computational Study** Presenting Author: Bo Zhou, University of Wisconsin, Madison, Wisconsin; Christopher Choi, Bo Zhou, Xiaoshuai Wang, Mario Mondaca

ILES18-125  **Annual electrical energy requirements of five cooling strategies for lactating dairy confined housing in the Eastern United States.** Presenting Author: Ted L. Funk, University of Illinois, Savoy, Illinois; Curt A. Gooch, Richard R. Stowell, Jiangoing Li

ILES18-063  **Improving Air Quality and Effective Cowside Velocity (ECV) inside Modern Dairy Facilities** Presenting Author: Michael J. Wolf DVM, Country Doctors, Menomonie, Wisconsin; Michael Wolf, Christopher Choi, Micheal Wolf

**Animal Responses to Environment-Response to Thermal Environment**

**Tuesday, 1:30pm - 3:00pm - Room: Missouri**

ILES18-140  **Evaluation of environmental temperature on pullet weight gain and uniformity** Presenting Author: Richard Gates, University of Illinois, Urbana, Illinois; Marcia Gabrielle Lima Candido, Ilda de Fatima Ferreira Tinoco, Richard S. Gates, Rafaela Resende Andrade, Isabella Thereza de Almeida Martins, Leticia Cibele da Silva Ramos Freitas

ILES18-153  **Impact of Brazilian pig farm construction and environmental management practices on nursery pig performance – A case study** Presenting Author: Eliene Justino, Campinas, Sao Paulo Brazil; Eliene Justino, Fausto P. Maluf, Kenneth D. Casey

ILES18-077  **High ambient temperature impacts semen quality in boars and potential molecular drug-targets and nutritional strategies for amelioration** Presenting Author: Yansen Li, Nanjing Agricultural University, Nanjing China; Yansen Li, Zhaojian Li, Jiaqin Chen, Chunmei Li

**Precision Livestock Farming-Autonomous or Robotic System**

**Tuesday, 1:30pm - 3:00pm - Room: Iowa**

ILES18-034  **Automatic Identification of Broiler Mortality Using Image Processing Technology** Presenting Author: Veera Muvva, Mississippi State University, Mississippi State, Mississippi; Veera V.R.M.K.R. Muvva, Yang Zhao, Pratik Parajuli, Song Zhang, Tom Tabler, Joseph Purswell

ILES18-142  **Comparative evaluation of poultry avoidance distances to human vs. robotic vehicle** Presenting Author: Pratik Parajuli, Mississippi State University, Starkville, Mississippi; Yanbo Huang, Yang Zhao, Tom Tabler, Joseph L. Purswell
ILES18-053  **Survey and future prospects in precision dairy farming** Presenting Author: Hugo Milan, Cornell University, Ithaca, New York; Hugo Milan, Kristen Perano, Kifle Gebremedhin
ILES18-029  **Function of automatic manure scrapers** Presenting Author: Lars Erik Ruud, Inland Norway University of Applied Sciences, 2322 Ridabu, Hedmark Norway; Lars Erik Ruud

**Air Quality - Measurement and Abatement of Aerial Pollutants-Ammonia**

**Tuesday, 1:30pm - 3:00pm - Room: Nebraska**
ILES18-048  **Improving Air Quality in Swine Buildings by Using a Combination of Technologies - Pilot-scale Tests** Presenting Author: Ariane Levesque, IRDA, Quebec, Quebec Canada; Ariane Levesque, Matthew Griard, Valerie Letourneau, Caroline Duchaine, Stephane Godbout, Stephane Lemay
ILES18-104  **USDA-NRCS Opportunities for Assisting Producers in Addressing Air Emissions** Presenting Author: Gregory Zwicke, USDA-NRCS, Fort Collins, Colorado; Greg Zwicke, Greg Johnson
ILES18-115  **Determination of Activation Humidity Thresholds for Acid Based Litter Amendment under Winter Conditions** Presenting Author: Hong Li, University of Delaware, Newark, Delaware; Hong Li
ILES18-106  **Behavioral responses of laying hens to atmospheric ammonia in an environmental preference chamber** Presenting Author: Christina Tucker, University of Illinois, Urbana, Illinois; Christina Tucker, Angela Green, Richard Gates, San Myint, Janeen Salak-Johnson
ILES18-016  **The emission laws and prediction model of air pollutants in fattening pig houses** Presenting Author: Pu Shihua, Long Dingbiao, Wang Hao, Chongqing Academy of Animal Sciences, Rongchang, Chongqing China; Dingbiao Long, Shihua Pu, Zuohua Liu, Yaqiong Zeng

**Animal Responses to Environment-Building and Thermal Control Systems**

**Wednesday, 8:00am - 9:30am - Room: Missouri**
ILES18-138  **Comparison of Outside Air and Sol-air Design Temperatures for Estimating Insulation Needs** Presenting Author: Gary Daniel Chesser, Jr., Mississippi State University, Mississippi State, Mississippi; Daniel Chesser, Joseph Purswell, Jeremiah Davis, Jason Ward, Tom Tabler, Yang Zhao
ILES18-007  **Control algorithm development and simulation for comparing evaporative pads and sprinklers for grow-finish pigs** Presenting Author: Brett Ramirez, Iowa State University, Ames, Iowa; Brett Ramirez, Steven Hoff, Jay Harmon
ILES18-033  **Thermal Environment Evaluation of a Novel Positive Pressure Filtered Ventilation System in a Swine Breeding-Gestation Barn** Presenting Author: Benjamin Smith, Iowa State University, Ames, Iowa; B. C. Smith, B. J. Fonken, J. P. Stinn, S. J. Hoff, J. D. Harmon
ILES18-130  *Thermal performance of perforated pen panels for on-farm nutritional test trials*  
Presenting Author: Kelly E. Goneke, Auburn University, Auburn, Alabama; Kelly Goneke, Jeremiah Davis, Joseph Purswell, Daniel Chesser, Carson Edge, Jesse Campbell

ILES18-154  *Thermocline Design for Thermal Preference Testing in Piglets*  
Presenting Author: Angela R. Green-Miller, University of Illinois, Urbana, Illinois; Angela Green

**Precision Livestock Farming-Image Analysis**  
**Wednesday, 8:00am - 9:30am - Room: Iowa**

ILES18-143  *Evaluation of a low cost thermographic camera for poultry temperature*  

ILES18-128  *Neonatal Piglet Core Body Temperature Model from Surface Temperature and Environment Measurements*  
Presenting Author: Yijie Xiong, University of Illinois, Urbana, Illinois; Y. Xiong, R.S. Gates, N. Cooper, M. Ellis

ILES18-060  *Measurement of 3-D surface area of piglets*  
Presenting Author: Hugo Milan, Cornell University, Ithaca, New York; Hugo Milan, Gustavo Moura, Patric Castro, Alex Maia, Kifle Gebremedhin

ILES18-119  *A 3D Computer Vision System for Automatic Detection of Sheep Standing and Lying Behaviour*  
Presenting Author: Inger Hansen, NIBIO, Norwegian Institute of Bioeconomy Research, Sweden; Keni Ren, Grete H.M. Jorgensen, Inger Hansen, Johannes Karlsson

ILES18-018  *An Image Acquisition System for Studying Behaviors of Sows and Piglets in Farrowing Barns*  
Presenting Author: Suzanne M. Leonard, Iowa State University, Ames, Iowa; Suzanne M. Leonard, Hongwei Xin, Tami Brown-Brandl, Brett C. Ramirez

**Air Quality - Measurement and Abatement of Aerial Pollutants-Greenhouse Gas**  
**Wednesday, 8:00am - 9:30am - Room: Nebraska**

ILES18-026  *Determining environmental benefits and economic costs of different manure handling strategies in Quebec’s dairy production using farm simulation*  
Presenting Author: Sebastien Fournel, Universite Laval, Quebec City, Quebec Canada; Sebastien, Fournel, Simon Binggeli, Jean-Michel Dion, Edith Charbonneau, Doris Pellerin, Martin Chantigny, Stephane Godbout

ILES18-134  *Virtual Farm Website for Dairy Climate Change and Sustainability Information*  
Presenting Author: Eileen Fabian-Wheeler, Penn State University, University Park, Pennsylvania; Eileen Fabian-Wheeler, Daniel Hofstetter, Rebecca Larson, Horacio Aguirre-Villegas, Carolyn Rumery Betz

ILES18-093  *Enteric and Simulated Pen Surface Emissions of Nitrous Oxide from Beef Cattle Feedyards*  
Presenting Author: David B. Parker, USDA-ARS, Bushland, Texas; David Parker, Kenneth Casey, Heidi Waldrip, Jenny Jennings, Kristen Hales, Richard Todd

ILES18-146  *Evaluation of methane production manipulated by level of intake in growing cattle and corn oil in finishing cattle*  
Presenting Author: Tommy Winders, University of Nebraska-Lincoln, Lincoln, Nebraska; Thomas Winders, Brad Boyd, Henry Hilscher, Rick Stowell, Samodha Fernando, Galen Erickson
Enteric methane emissions of beef cows grazing tallgrass prairie pasture on the southern Great Plains Presenting Author: Richard W. Todd, USDA-ARS, Bushland, Texas; Richard W. Todd, Corey Moffet, James P.S. Neel, Kenneth E. Turner, Jean L. Steiner, N. Andy Cole

Evaluating the Effect of Feeding Biocahr to Cattle on Methane Production and Diet Digestibility Presenting Author: Tommy Winders, University of Nebraska-Lincoln, Lincoln, Nebraska; Thomas Winders, Melissa Jolly-Breithaupt, Galen Erickson, Andrea Watson

Animal Responses to Environment - POSTER SESSION
Wednesday, 9:30am - 11:00am - Room: Winnebago/Flanagan

Fan Placement in Horse Stalls Presenting Author: Staci McGill, University of Kentucky, Lexington, Kentucky; Staci McGill, Morgan Hayes, Robert Coleman


Aboveground Burial for the Management of Livestock Mortality Following Disease Outbreaks or Natural Disasters Presenting Author: Robert Peer, Virginia Department of Environmental Quality, Harrisonburg, Virginia; Gary Flory, Robert Peer, Robert Clark

Identification of differentially expressed genes associated with breast meat yield of broilers in response to atmospheric ammonia using RNA sequencing Presenting Author: Bao Yi, Beijing China; Bao Yi, Liang Chen, Ruqing Zhong, Hongfu Zhang

Assessment of housing environment and its impact on dairy behavior and milk production in Northeastern China Presenting Author: Yujian Lu, China Agricultural University, Beijing China; Yujian Lu, Chaoyuan Wang, Shaojie Wang, Haoxiang Zhao, Li Dong, Zhengxiang Shi, Baoming Li

Space allowance and flooring in ewes Presenting Author: Knut Egil Boe, Norwegian University of Life Sciences, As Norway; Knut Egin Boe, Stine Gronmo Kischel

Effect of different levels of air velocity at 35°C on Japanese quail behavior at start of lay Presenting Author: Tatiany Carvalho dos Santos, Universidade Federal de Vicoasa, Vicoasa, Minas Gerais Brazil; Tatiany Santos, Richard Gates, Ilda Tinoco, Sergio Zolnier, Leticia Freitas, Marcia Candido

Effect of different levels of air velocity and temperature on Japanese quail performance at start of lay Presenting Author: Tatiany Carvalho dos Santos, Universidade Federal de Vicoasa, Vicoasa, Minas Gerais Brazil; Tatiany Santos, Richard Gates, Ilda Tinoco, Sergio Zolnier, Rafaela Andrade, Leticia Freitas, Carlos Teles Junior

Precision Livestock Farming - POSTER SESSION
Wednesday, 9:30am - 11:00am - Room: Winnebago/Flanagan

Validation of radio frequency identification with a current transducer to quantify the use of an automatic grooming brush in pre-weaned dairy calves. Presenting Author: Melissa Cantor,
University of Kentucky, Lexinton, Kentucky; Morgan Falk, Melissa C. Cantor, Morgan Hayes, Josh Jackson, Joao HC Costa

ILES18-127 Computational program to evaluate thermal comfort in animal production facilities Presenting Author: Richard S Gates, University of Illinois, Urbana, Illinois; Carlos Gutemberg de Souza Teles Junior, Richard S. Gates, Ilida de Fatima Ferreira Tinoco, Cecilia de Fatima Souza, Moniqu de Oliveira Vilela

ILES18-055 Development of a Rainwater Harvesting Model for Broiler Farms to Estimate On-farm Storage Needs Presenting Author: Carson M. Edge, Auburn University, Auburn, Alabama; Carson Edge, Jeremiah Davis, William Batchelor, Eugene Simpson, Joseph Purswell

ILES18-005 Computational Fluid Dynamics Model for Air Velocity through a Poultry Transport Trailer in a Holding Shed Presenting Author: Yi Liang, University of Arkansas, Fayetteville, Arkansas; C. Heymsfield, Y. Liang, T.A. Costello

ILES18-120 Estimation of THI index to evaluate thermal stress of animal-occupied zone in a broiler house using BES method Presenting Author: Kyeong-seok Kwon, Jeonju, Jeollabukdo Korea; Taehwan Ha, Hee-chul Choi, Jong-bok Kim, Jung-hwan Jeon, Saemee Woo, Ka-young Yang, In-bok Lee

ILES18-144 Feasibility study of Environmental Control of Dairy Barns using Air Conditioning or Evaporative Cooling Presenting Author: Ted L Funk, University of Illinois, Urbana, Illinois; Jiango Li, Xuejin Shen, Ted L. Funk, Xinlei Wang

ILES18-006 Construction and Performance of a Self-Contained, Temperature-Controlled Heat Source (Electronic Chicken) to Quantify Thermal Load during Live Haul of Broiler Chickens Presenting Author: Yi Liang, University of Arkansas, Fayetteville, Arkansas; Kaushik Luthra, Yi Liang, Thomas Costello, James Andress

ILES18-079 Performance evaluation of high-efficiency fan shades in reduction of light leakage and spatial variation of illuminance in commercial broiler houses Presenting Author: Dr. John Linhoss, Mississippi State University, Starkville, Mississippi; John Linhoss, Joseph Purswell, Daniel Chesser, Wes Lowe

ILES18-147 AWARTECH Project Presenting Author: Vasco Fitas da Cruz, Universidade de Evora, Evora Portugal; Catarina Martins, Vasco Fitas de Cruz, Rui Charneca, Jose Rico, Teresa Morgado

ILES18-032 Simulation to improve temperature and airflow patterns in tunnel ventilation systems Presenting Author: Daniella Jorge de Moura, UNICAMP, Campinas, Sao Paulo Brazil; Daniella Moura, Vilmar Sousa Junior

ILES18-122 Monitoring of Air Temperature and Humidity Distribution, and Effect Analysis of Air Supply Methods for Improvement of Internal Air Quality in Winter Fattening Pig House Presenting Author: Uk-hyeon, Yeo, Seoul National University, Seoul Korea; Uk-hyeon Yeo, In-bok Lee, Rack-woo Kim, Sang-yeon Lee, Gwanyong Park


ILES18-150 Heat Production of Jersey Dairy Cows Measured via Indirect Calorimetry Presenting Author: Richard R. Stowell, University of Nebraska, Lincoln, Nebraska; D. L. Morris, R. R. Stowell, T. M. Brown-Brandl, P. J. Kononoff
ILES18-090  Is the environmental automated control the answer for foot pad dermatitis in intensive broiler chickens farming? Presenting Author: Prof. Marcella Guarino, Universita degli Studi di Milano, Milano Italy; Emanuela Tullo, Giacomo Aletti, Alessandra Micheletti, Giovanni Naldi, Alberto Pena Fernandez, Erik Vranken, Daniel Berckmanns, Marcella Guarino
ILES18-069  Application of an automated early-warning leak detector for earthen wastewater holding structures using non-invasive geophysical instrumentation. Presenting Author: Bryan L. Woodbury, USDA, Clay Center, Nebraska; Bryan Woodbury
ILES18-156  Development and application of an automatic environmental control system for animal housing Presenting Author: Benhai Xiong, Chinese Academy of Agricultural Sciences, Beijing China; Yiguang Zhao, Xuemei Nan, Xiangfang Tang, Liang Yang, Benhai Xiong
ILES18-158  Performance of pregnant West African Dwarf ewes fed diets supplemented with varying levels of fossil shell flour Presenting Author: Emeruwa Chibuisi Henry, Farys Farm, Ibadan, Oyo State Nigeria; C.H. Emeruwa, N.F. Anurudu

Air Quality - Measurement and Abatement of Aerial Pollutants - POSTER SESSION
Wednesday, 9:30am - 11:00am - Room: Winnebago/Flanagan
ILES18-065  Numerical modelling of negative air ionization for removing viral bioaerosols in an enclosed space Presenting Author: Desmond Essien, Department of Biosystems, University of Manitoba, Winnipeg, Manitoba Canada; Desmond Essien, Qiang Zhang, Kevin Coombs, David Levin
ILES18-072  Effect of Slatted Floor Configuration on Air Quality and Floor Cleanliness in a Sow Barn Presenting Author: Xiaojie Yan, University of Manitoba, Winnipeg, Manitoba Canada; Xiaojie Yan, Qiang Zhang, Laurie Connor
ILES18-082  Comparison of airborne particulate matter and ammonia concentrations from nursing and fattening rooms in large semi-enclosed swine house Presenting Author: Zhaijian Li, Nanjing, Jiangsu Province China; Zhaojian Li, Sheng Wu, Dan Shen, Qiang Tang, Yansen Li, Chunmei Li
ILES18-108  Emissions of Hydrogen Sulfide from the Pen Area of a Beef Cattle Feedyard in the Texas High Plains Presenting Author: Kenneth D Casey, Texas A&M AgriLife Research, Amarillo, Texas; Richard Todd, Kenneth Casey, Marty Rhoades, David Parker
ILES18-118  Relationship between aerosol concentration and airborne microbe including porcine sapelovirus concentration in Japanese weaning swine houses Presenting Author: Takanori Naide, Tokyo University of Agriculture and Technology, Fuchu, Tokyo Japan; Takanori Naide, Atsuo Ikeguchi, Md Aminul Islam, Ryoh Nakakubo, Ayako Miyazaki, Kenji Kawashima, Ken Katsuda
ILES18-136  Mitigating hydrogen sulfide safety risk and odor for dairy farms using gypsum bedding Presenting Author: Eileen Fabian-Wheeler, Penn State University, University Park, Pennsylvania; Eileen Fabian, Long Chen, Michael Hile, Michael Pate

Animal Responses to Environment-Ventilation and Cooling Systems
Wednesday, 11:00am - 12:30pm - Room: Missouri
ILES18-057  Thermal environmental performance of a dairy barn cross-ventilated in warm weather and naturally ventilated in cool weather Presenting Author: Kevin Janni, University of Minnesota, St. Paul, Minnesota; Kevin Janni, James Salfer, Erin Cortus, Johanna Knorr
ILES18-109  Air conditioning for naturally ventilated dairy barns Presenting Author: Joe Zulovich, University of Missouri, Columbia, Missouri; Joseph M, Zulovich, Ryan K. Milhollin, Joe L. Horner, Joseph P. Harner, Teng Teeh Lim
ILES18-110  Air conditioning for mechanically ventilated LPCV dairy barns Presenting Author: Joe Zulovich, University of Missouri, Columbia, Missouri; Joseph M, Zulovich, Ryan K. Milhollin, Joe L. Horner, Joseph P. Harner, Teng Teeh Lim
ILES18-098  Impact of shade in beef feedyards on performance, body temperature, and heat stress measures. Presenting Author: Brett A Melton, University of Nebraska-Lincoln, Lincoln, Nebraska; Brett Melton, Bradley Boyd, Casey Macken, James MacDonald, Galen Erickson
ILES18-135  Conductive Cooling of Group-Housed Grow-Finish Pigs: Year 1 Presenting Author: Erin Cortus, University of Minnesota, St. Paul, Minnesota; Erin Cortus, Joseph Darrington, Robert Thaler

Precision Livestock Farming-Disease or Stress Detection
Wednesday, 11:00am - 12:30pm - Room: Iowa
ILES18-073  Application of an early warning to detect enteropathies in intensive broiler farming Presenting Author: Prof. Marcella Guarino, Universita degli Studi di Milano, Milano Italy; Emanuela Tullo, Federica Borgonovo, Guido Grilli, Alessandra Micheletti, Giacomo Aletti, Susanna Lolli, Valentina Ferrante, Marcella Guarino
ILES18-023  A real-time sow behavior analysis system to predict an optimal timing for insemination Presenting Author: Jacquelin Labrecque, Ro-Main, St-Lambert-de-Lauzon, Quebec Canada; Jacquelin Labrecque, Joel Rivest
ILES18-017  Research of a sound labeling tool for laying hens based on LabVIEW Presenting Author: Guanghui Teng, China; Xiaodong Du, Yanfei Cao, Guanghui Teng
ILES18-059  Development of a Real-time Wireless Biosensor to Monitor Heat Stress of Dairy Cows Presenting Author: Christopher Choi, University of Wisconsin, Madison, Wisconsin; Christopher Choi, Hanwook Chung, Jingjie Li, Younghyun Kim

Air Quality - Measurement and Abatement of Aerial Pollutants-Particulate Matter & Microbes
Wednesday, 11:00am - 12:30pm - Room: Nebraska
ILES18-141  Spatial and Diurnal Variations of Particulate Matter Concentration of a Pilot-Scale Aviary Layer House in Winter Presenting Author: Yu Wang, Iowa State University, Ames, Iowa; Yu Wang, Dapeng Li, Suzanne Leonard, Zhengxiang Shi, Hongwei Xin, Lilong Chai, Baoming Li
Effectiveness of Negative Air Ionization in Removing Airborne Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) Presenting Author: Amy La, University of Manitoba, Winnipeg, Manitoba Canada; Amy La, Qiang Zhang, David Levin, Kevin Coombs

Spatial variation of PM concentration and particle size distribution of a perchery system with large cage aviary unit for laying hens Presenting Author: Zongyang Li, China Agricultural University, Beijing, China; Zongyang Li, Chaoyuan Wang, Baoming Li, Zhengxiang Shi, Weichao Zheng, Guanghui Teng

Particulate Matter Suppression and Heat Stress Relief in a Cage-free Hen House Presenting Author: Hongwei Xin, Iowa State University, Ames, Iowa; Lilong Chai, Hongwei Xin, Yu Wang, Jofran Oliveira, Kailao Wang, Yang Zhao

Prevention of PM and airborne bacteria transmission between double-tunnel ventilation layer hen houses Presenting Author: Weichao Zheng, China Agricultural University, Beijing China; Zonggang Li, Weichao Zheng, Baoming Li, Chaoyuan Wang, Zhengxiang Shi, Guanghui Teng

Animal Responses to Environment-Lighting Systems and Effects

Wednesday, 2:00pm - 3:30pm - Room: Missouri

Temporal variability of illuminance in commercial broiler houses Presenting Author: Joseph L. Purswell, USDA-ARS, Mississippi State, Mississippi; Joseph Purswell, John Linhoss, Hammed Olanrewaju

Light intensity, egg weight and egg size in a vertical aviary of naturally ventilated laying hens Presenting Author: Richard Gates, University of Illinois, Urbana, Illinois; Ilda de Fatima Ferreira Tinoco, Tatiany Carvalho dos Santos, Marcia Gabrielle Lima Candido, Cecilia de Fatima Souza, Richard S. Gates

Egg laying pattern of hens in a multiple tiers aviary system Presenting Author: Xuanyang Li, China Agricultural University, Beijing China; Xuanyang Li, Liu Yang, Xiaocui Wang, Zhengxiang Shi, Baoming Li, Qin Tong

Behavioral and Production Responses of W-36 Chicks to Supplementary UVA Light Presenting Author: Kai Liu, Iowa Sate University, Ames, Iowa; Kai Liu, Kailao Wang, Tao Fei, Lilong Chai, Hongwei Xin

Effects of Exposing Eggs to Various Green Light Intensities during Incubation on Hatch Performance, Post-Hatch Grow Performance, Fear and Stress Responses in Layer Chicks Presenting Author: Yue Yue, Zhejiang University, Hangzhou, Zhejiang China; Yue Yu, Zhanming Li, Jinming Pan

Precision Livestock Farming-RFID Applications

Wednesday, 2:00pm - 3:30pm - Room: Iowa

Development and Validation of a Low-Frequency RFID system for monitoring grow-finish pig feeding and drinking behavior Presenting Author: Tami Brown-Brandl, USDA-ARS-MARC, Aurora, Nebraska; Tami Brown-Brandl, Felix Adrion, Roger Eigenberg, Eva Gallmann

Practical test and evaluation of optimized UHF ear tags for behavior monitoring of fattening pigs. Presenting Author: Adrian Foerschner, University of Hohenheim, Stuttgart, Baden-Wuerttemberg Germany; Felix Adrion, Eva Gallmann
A RFID-Based Monitoring System for Characterization of Perching Behaviors of Individual Poultry Presenting Author: Kailao Wang, Iowa State University, Ames, Iowa; Kailao Wang, Kai Liu, Hongwei Xin, Lilong Chai, Yu Wang, Tao Fei, Jofran Oliveira, Jinming Pan, Yibin Ying

Radio-frequency Identification (RFID) System for Monitoring Specific Behaviors of Group Housed Broilers Presenting Author: Guoming Li, Mississippi State University, Starkville, Mississippi; Guoming Li, Yang Zhao, Rhet Hailey, Nan Zhang, Yuanji Liang, Joseph L. Purswell

Activity analysis to detect lameness in pigs with a UHF-RFID system Presenting Author: Anita Kapun, University of Hohenheim, Stuttgart Germany; Anita Kapun, Felix Adrion, Eva Gallmann

Air Quality - Measurement and Abatement of Aerial Pollutants-Particulate Matter & Microbes
Wednesday, 2:00pm - 3:30pm - Room: Nebraska

Concentrations and distributions of airborne bacteria in a growing swine building in China Presenting Author: Xiuping Tao, Institute of Environment & Sustainable Development in Agriculture, CAAS, Beijing China; Xiuping Tao, Bin Shang, Hongmin Dong, Yongxing Chen

Distribution of Particulate Matter in Poultry Layer Houses and PM2.5-induced Damage on Human Alveolar Epithelial Cells Presenting Author: Chunmei Li, Nanjing Agricultural University, Nanjing, Jiangsu China; Chunmei Li, Pengyuan Dai, Dan Shen, Yansen Li

Aerosols and bacteria concentration in different types of Japanese dairy milking houses. Presenting Author: Takanori Naide, Tokyo University of Agriculture and Technology, Saiwai-cho, Fuchu-shi, Tokyo Japan; Md. Aminul Islam, Atsuo Ikeguchi, Takanori Naide

Air quality at low outdoor temperatures in Norwegian horse stables Presenting Author: Knut Egil Boe, Norwegian University of Life Sciences, As Norway; Knut Egil Boe, Eileen Fabian-Wheeler, Grete Jorgensen