# 2015 Symposium on Gut Health in Production of Food Animals
Draft Program Schedule

## Sunday, November 8

**Registration**
Grand Ballroom Foyer  
5:00 PM - 7:00 PM

## Monday, November 9

**Breakfast**
Grand Ballroom EFG  
7:00 AM - 8:00 AM

**Registration**
Grand Ballroom Foyer  
7:00 AM - 5:00 PM

## ORAL SESSIONS

### Session I
Chair: **Mike Kogut, USDA-ARS**  
Grand Ballroom ABCD

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
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<tr>
<td>8:15 AM</td>
<td>Welcome. Mike Kogut, USDA-ARS</td>
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</table>
| 8:30 AM    | Invited Presentation: Dietary modulation of intestinal epithelial defense in chickens.  
G. Zhang*, Department of Animal Science, Oklahoma State University, Stillwater, OK, USA. |
| 9:30 AM    | Degenerative primer design and gene sequencing validation for select turkey genes.  
S. Loeffler*, M. Lilburn, and M. Wick, The Ohio State University, Columbus, OH, United States. |
| 10:00 AM   | Effects of coated highly dispersed nano zinc oxide dietary supplements on growth performance and diarrhea symptoms in weaning piglets.  
Bingjie Zou, Li Zhe, Rong Yu*, and Shui Li, King Techina Group. |
| 10:30 AM   | Coffee Break: Grand Ballroom EFG.                                                                  |
| 11:00 AM   | Dietary available phosphorus and phytase levels can influence the pH of the upper intestine and histomorphological characteristics of the lower intestine in broilers.  
L. Beeson*1,3, C Walk2, P Hastie1, M Bedford2, and O Olukosi1, 1Monogastric science research centre, SRUC, Edinburgh, UK, 2AB Vista, Marlborough, Wiltshire, UK, 3University of Glasgow, Glasgow, UK. |
| 11:15 AM   | Microbiota characterization and functional potential of rumen fluid of high and low milk production dairy cattle.  
S Lima*1,2, R Pereira1, V Machado1, and R Bicalho1, 1Cornell University, Ithaca, NY, USA, 2Science Without Borders, Brazil. |
| 11:45 PM   | Lunch (provided): Grand Ballroom EFG.                                                                |
| 1:00 PM    | Poster Session: Grand Ballroom EFG.                                                                  |

### Session II
Chair: **Mike Kogut, USDA-ARS**  
Grand Ballroom ABCD
3:00 PM 105 Invited Presentation: Understanding host-microbial interactions and their impact on gut development in newborn dairy calves.  
N. Malmuthuge¹, G. Liang¹, P. Griebel², and L.L. Guan*¹, ¹University of Alberta, Edmonton, AB, Canada, ²University of Saskatchewan, Saskatoon, SK, Canada.

4:00 PM 106 Influence of Ca source, dietary Ca level, and probiotic on naturally occurring necrotic enteritis in broilers.  
A McElroy*¹ and D Paiva², ¹Texas A&M University, ²FDA.

4:30 PM 107 Long term benefits of modifying pigs feed presentation on Salmonella spp. shedding, digestive microbiota and health.  
P LeBel*¹, A Letellier¹, B Laplante², E Yergeau³, and P Fravalo¹, ¹Research Chair in Meat Safety, Faculty of Veterinary Medicine, University of Montreal, St-Hyacinthe, QC, CA, ²F. Ménard, L’Ange-Gardien, QC, CA, ³National Research Council Canada, Energy, Mining and Environment, Montreal, QC, CA.

SOCIAL EVENTS

Reception  
Grand Ballroom EFG  
6:00 PM - 8:00 PM

Tuesday, November 10

Breakfast  
Grand Ballroom EFG  
7:00 AM - 8:00 AM

Registration  
Grand Ballroom Foyer  
7:00 AM - 4:30 PM

ORAL SESSIONS

Session III  
Chair: Mike Kogut, USDA-ARS  
Grand Ballroom ABCD

8:30 AM 108 Invited Presentation: Salmonella in food animal production: defining the need for antibiotic alternatives and exploring approaches for intervention.  
S Bearson*, USDA, ARS, National Animal Disease Center.

9:30 AM 109 Evolution of the faecal microbiome of the sow during the gestation and its impact on Salmonella excretion.  
G Larivièere-Gauthier*, A Letellier¹, E Yergeau², B Laplante³, and P Fravalo¹, ¹Research Chair in Meat Safety, Faculty of Veterinary Medicine, University of Montreal, St-Hyacinthe, Québec, Canada, ²National Research Council Canada, Energy, Mining and Environment, Montreal, Québec, Canada, ³F. Ménard Inc., L’Ange-Gardien, Québec, Canada.

10:00 AM 110 Infection of broilers with Eimeria causes species specific changes in mRNA expression of genes associated with amino acid and sugar uptake in the gut.  
K.B. Miska* and R.H. Fetterer, USDA/ARS, Beltsville, MD, USA.

10:30 AM  
Coffee Break: Grand Ballroom EFG.

11:00 AM 111 Bacteremia and Lameness: An investigation into blood microbiota associated with Bacterial Chondronecrosis with Osteomyelitis (BCO) in Broilers.  
RK Mandal*, T Jiang¹, RF Wideman¹, A A Alrubaye², D D Rhoads², I Pevzner³, and YM Kwon¹², ¹Department of Poultry Science, University of Arkansas, Fayetteville, Arkansas, United States of America, ²Cell and Molecular Biology Program, University of Arkansas, Fayetteville, Arkansas, United States of America, ³Cobb-Vantress Inc., Siloam Springs, Arkansas, United States of America.
Effects of virginiamycin and/or a phytogenic feed additive on performance and intestinal health of broiler chickens.
Hector M. Cervantes*1,2, Manuel J. Da Costa2, Kenneth W. Bafundo1, and Gene M. Pesti2, 1Phibro Animal Health, 2University of Georgia.

Lunch (provided): Grand Ballroom EFG.

**Session IV**
**Chair:** Mike Kogut, USDA-ARS
**Grand Ballroom ABCD**

2:00 PM  Invited Presentation: Toward an understanding of fish gut tolerance to alternative feeds—The Trout-Grains Project.
Jason Abernathy*1, Andreas Brezas2, Thomas Welker1, Keshun Liu3, Frederic Barrows4, Ken Overturf5, and Ronald Hardy5, 1USDA-ARS, Hagerman Fish Culture Experiment Station, 3059F National Fish Hatchery Rd, Hagerman, ID, USA, 2University of Idaho, Hagerman Fish Culture Experiment Station, 3059F National Fish Hatchery Rd, Hagerman, ID, USA, 3USDA-ARS, Small Grains and Potato Germplasm Research Unit, 1691 S 2700 W, Aberdeen, ID, USA, 4USDA-ARS, Bozeman Fish Technology Center, 4050 Bridger Canyon Rd, Bozeman, MT, USA.

3:00 PM  Use of a novel enzymatic strategy (Hemicell-L?) to assess the impact on broiler intestinal health and productivity under commercial conditions in a German integration.

3:30 PM  Combining feed enzyme activities in poultry feeds: adding energy sparing enzymes to manage the impact of unnecessary feed induced immune responses (FIIR) on broiler intestinal health and overall production performance.
M.A. Martinez-Cummer*, Elanco Animal Health, Greenfield, IN, USA.

4:00 PM  Effects of grain processing on starch digestion and performance of feedlot cattle.
E. F. Schwandt*1, J. J. Wagner2, T. E. Engle1, S. J. Bartle1, D. U. Thomson1, and C. D. Reinhardt1, 1Kansas State University, Manhattan, KS, USA, 2Colorado State University, Fort Collins, CO, USA.

**SOCIAL EVENTS**

Reception
Grand Ballroom EFG
6:00 PM - 8:00 PM

Wednesday, November 11

Breakfast
Grand Ballroom EFG
8:00 AM - 9:00 AM

Registration
Grand Ballroom Foyer
8:00 AM - 11:00 AM

**ORAL SESSIONS**

Session V
**Chair:** Mike Kogut, USDA-ARS
**Grand Ballroom ABCD**

9:00 AM  Effect of organic acids and essential oils on enteric mucosa morphology and histology as indicators of gut health in poultry.
POSTER PRESENTATIONS
The official poster session will take place on Monday afternoon but posters should remain available through Tuesday.

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<thead>
<tr>
<th>Poster Session</th>
<th>Grand Ballroom EFG</th>
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<td><strong>P100</strong></td>
<td>In two different model systems, daily feeding of <em>Lactobacillus animalis</em> improved performance and reduced the mortality and morbidity associated with necrotic enteritis in broilers. Steven Lerner1, James McNaughton2, and Greg Mathis3, 1Nutrition Physiology Company, LLC, Kansas City, MO, US, 2AHPPharma, Salisbury, MD, US, 3Southern Poultry Research, Athens, GA, US.</td>
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<tr>
<td><strong>P101</strong></td>
<td>Effect of a <em>Bacillus</em> direct-fed microbial candidate on nutrient digestibility, gut permeability, bone quality, and growth performance in broilers consuming a sorghum-based diet. J. D. Latorre1, R. E. Wolfenden2, J. L. Vicente2, A. D. Wollenden1, R Galarza-Seeber1, V. A. Kuttappan1, L. R. Bielke1, B. M. Hargis1, and G. Tellez1, 1University of Arkansas, Department of Poultry Science, Fayetteville, Arkansas, USA, 2Pacific Vet Group, Fayetteville, Arkansas, USA.</td>
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<tr>
<td><strong>P102</strong></td>
<td>Evaluation of a Bacillus spp. direct fed microbial candidate (DFM) for aflatoxin B1 biodegradation in broiler chickens. R Galarza-Seeber*, JD Latorre, A Wolfenden, B Hargis, and G Tellez, University of Arkansas, Fayetteville, Ar, USA.</td>
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<td><strong>P103</strong></td>
<td>Involvement of microRNAs in calves’ intestinal growth and development and probable modulatory role of <em>Saccharomyces cerevisiae</em>. E.M. Ibeagha-Awemu*, P.-L. Dudemaine, J. Chiquette, G Talbot, and N. Bissonnette, Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, Quebec, Canada.</td>
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<td><strong>P104</strong></td>
<td><strong>SUGAR CANE BAGASSE AFFECTS THE FUNGAL COMMUNITY DYNAMIC IN THE SHEEP RUMEN.</strong> Emiliana Manesco Romagnoli1, Christopher Dunlap2, Adibe Luiz Abdalla3, and Rodrigo Mendes1, 1Embrapa Environment, Laboratory of Environmental Microbiolog, Jaguariuna, Sao Paulo, Brazil, 2United States Department of Agriculture, Agricultural Research Service, National Center for Agricultural Utilization Research, Peoria, Illinois, United States, 3University of Sao Paulo, Center for Nuclear Energy in Agriculture, Piracicaba SP, Brazil.</td>
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<td><strong>P105</strong></td>
<td>A Comparison of fungal and bacterial populations in broilers from high and low producing farms. J. Byrd*, USDA, ARS, Food and Feed Safety Research Unit, College Station, TX 77845.</td>
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<td><strong>P106</strong></td>
<td>Genetic relatedness between avian pathogenic <em>Escherichia coli</em> recovered from broiler breeders and chicks reveals potential of vertical transmission. J Lambrecht1, F Delago1, K Gibbs2, T Horne3, and E Galbraith1, 1DuPont Nutrition and Health, Waukesha, WI, US, 2DuPont Industrial Biosciences, Marlborough, UK, 3Chemuniqué, Randburg, South Africa.</td>
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<tr>
<td><strong>P107</strong></td>
<td>Investigation of APEC Virulence Associated Genes From US Poultry Isolates. Firmin Delago*, C Urbain, J Lambrecht, S Gebert, and E Galbraith, DuPont, Waukesha, WI, US.</td>
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<tr>
<td><strong>P108</strong></td>
<td>Effect of organic selenium on the chicken caecal microbiome equilibrium and <em>C. jejuni</em> carriage. A Thibodeau, P Fravalo*, and A Letellier, Université de Montréal, Saint-Hyacinthe, Québec, Canada.</td>
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<td><strong>P109</strong></td>
<td>Metagenomic Analysis of the Bovine Hindgut from <em>Salmonella</em> Kentucky and Cerro-Shedding Dairy Cows. B Haley*, J Karns, and J Van Kessel, Environmental Microbial and Food Safety Laboratory, Beltsville Agricultural Research Center, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, Maryland, USA.</td>
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<td>P110</td>
<td>Effect of stress events on mucosal permeability, bacterial translocation, and lameness in broilers.</td>
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<td>P111</td>
<td>The Effect of Sericea lespedeza on Coccidia Infected Chickens.</td>
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<td>P112</td>
<td>Impact of seasonality in the Intestinal Integrity of broilers in Northern European countries in the period 2012-2014. Results of the Elanco Health Tracking System (HTS?).</td>
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<td>P113</td>
<td>Systems kinomics reveal that Salmonella enterica Enteritidis modulates host immune signaling pathways in the cecum of chickens that are associated with the establishment of persistent infections.</td>
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<td>P114</td>
<td>Comparison of Immunometric Response in Turkeys Orally Inoculated with Salmonella Heidelberg.</td>
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<td>P115</td>
<td>Effects of supplementation of probiotics (Bacillus, Lactobacillus, Aspergillus niger) and prebiotics (chicory, rice bran) on growth performance, nutrient digestibility, meat quality, excreta microbiota, hematological profile and excreta noxious gas emissions in broilers.</td>
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<td>P116</td>
<td>Effects of DFM on growth performance, gut microbiota and pathogen resistance in L. vannamei shrimp.</td>
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<td>P117</td>
<td>The effect of intra-amniotic and post hatch dietary synbiotic administration on doudenum MUC2 gene expression.</td>
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<td>P118</td>
<td>Effect of garlic powder and vitamin E-selenium and their combination on performance, immune response, lipid profile, and blood picture of broilers.</td>
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<td>P119</td>
<td>Effects of suckling pigs from gilts fed dried bovine plasma during gestation and lactation on intestinal morphometry.</td>
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<td>P120</td>
<td>Effect of monocomponent protease on performance, organ size, and duodenal morphology in broilers fed autoclaved soybean.</td>
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