

Sunday Dec. 2	Presenter Abstract #	Chicago D (5th) Title	Presenter Abstract #	Chicago E (5th) Title	Presenter Abstract #	Chicago A/B (5th) Title	Presenter Abstract #	Chicago C (5th) Title	Presenter Abstract #	Chicago F/G (5th) Title	Presenter Abstract #	Avenue (4th) Title	Presenter Abstract #	Marrriott (4th) Title
Time	Session 1	AVEPM Schwabe Symposium	Session 2	NC229 Minisymposium	Session 3	Aquaculture	Session 4	Parasitology - Anaplasma	Session 5	Diagnostics - Pigs	Session 6	Foodborne Pathogens	Session 7	Immunology - Cattle
1:00 PM		Schwabe Symposium - Opening	Benfield / Rock	Opening remarks honoring Dr. Murtaugh	Mori	Transmission of waterborne fish and plant pathogens in aquaponics and physical control methods	Reppert	Evaluation of chlortetracycline-mediated mineral formulations to control active bovine anaplasmosis	Stanton	MiniON-based amplicon sequencing for rapid identification of three different RNA viruses	Effenbein	Inhibition of Myristylated Alanine-rich C-Kinase Substrate reduces Salmonella colonization of the bovine intestine	Coussens	Bovine leukemia virus alters the status of T cells in PBMCs from infected cattle
1:15	1:00 - 1:05	Schwabe Award Recipient	Featured Speaker		13		25		37		49		61	
1:30		Torres	Torremorell	Transmission and control of influenza: the role of the piglet.	14	Intensive oyster aquaculture can reduce disease impacts to sympatric wild oysters	Reif	Implications of Anaplasma marginale genetic diversity on current bovine anaplasmosis control strategies	38	Rapid & simple detection of PRRSV by fully automated sample-to-answer POKKIT™ Central PCR system at point of need	Burin	SPI-13 contributes to nutritional adaptation of Salmonella	62	Effects of bovine leukemia virus on antibody levels in milk, serum, and saliva
1:45	2	Counteracting animal diseases at the global level	6		15	Prevention of enteric septicemia of catfish by novel live attenuated vaccines	Coetzee	Impact of an outbreak of Anaplasma marginale in dairy cows on long term milk production	Chung	A fully automated POKKIT Central PCR system detects Mycoplasma gallisepticum and Mycoplasma synoviae on DOCs	Wu	SeeL deubiquitinates RPS3 to inhibit its nuclear translocation	63	Mammary gland targeting by pegylated granulocyte colony stimulating factor therapy during a chronic infection
2:00	1:05 - 1:55	Featured Speaker	Dekkers	Genetically improving resistance of pigs to PRRS virus infection.	16	Prevention efficacy of vaccines against virulence evolution of infectious hematopoietic necrosis virus	Brayton	Manipulation of the Dermacentor andersoni bacterial microbiome to mitigate Anaplasma marginale transmission	40	A Luminex multiplex assay for the detection of PRRSV, PCV2 and PCV3 and for PRRSV vaccine differentiation in the US	Resende	Effects of Lawsonia intracellularis infection on the proliferation of mammalian cell lines	64	Association of a SNP in TIAM-2 with T lymphocyte recruitment to bovine milk after Streptococcus uberis challenge
2:15		McElwain	Abrahamyan	Global picture of nidovirus-host cell interactions revealed by comparative proteomics.	17	Evaluating atypical Aeromonas hydrophila (ΔAh) in catfish aquaculture in the Delta region of Mississippi	Skinner	Isolation and characterization of two Anaplasma marginale isolates	41	Repeatability of real-time PCR for PRRSV at different concentrations in various sample matrices	Obradovic	Lawsonia intracellularis proteins identified through proteomic analysis are targets of neutralizing antibodies.	65	Persistence and virulence of M. paratuberculosis: a role for global gene regulators in disease and control
2:30	3	Impact of Animal Health at the Community/Household Level in Developing Nations	8		18	Validation of markers and marker-assisted selection of hard clam for resistance to QPX disease	Hoffman	Sequence of a novel Anaplasma marginale genome determined with next generation PacBio sequencing technology	42	Diagnostic application of monoclonal antibodies against African swine fever virus (ASFV)	Albers	Microbiological contamination of fresh retail ground beef and pork products	66	The potential role of IL-17a during John's disease progression
2:45	1:55 - 2:30	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break
3:00 PM	Session 8	AVEPM Schwabe Symposium	Session 9	NC229 Minisymposium	Session 10	Virology	Session 11	Parasitology	Session 12	Diagnostics	Session 13	Bacteriology	Session 14	Immunology
3:15		Featured Speaker	Telfer	Swine WC1 genes are a multigenic array with bacterial binding capacity.	Perera	Protease inhibitors broadly effective against feline, ferret and mink coronaviruses	Brayton	Anaplasma ovis: genome sequence and comparative analysis	43	AlphaLISA platforms for rapid and sensitive detection of PEDV antibody	Klappenbach	The foodborne pathogen that manipulates host cell footprints - links between actin and the extracellular matrix	67	Targeting cytochromes as bovine inflammatory regulators
3:30	4	Bovine brucellosis and tuberculosis: international challenges	Vu	Correlates of cross-protective immunity to porcine reproductive and respiratory syndrome virus.	19	Novel diagnostic test and phylogenetics for reducing bovine leukemia virus transmission in dairy cattle	Van Voorhis	Bumped kinase inhibitors: experimental therapy for cryptosporidiosis, toxoplasmosis, neosporosis, and sarcocystosis	44	Thoracic ultrasound, electronic stethoscope score, and tracheal wash cytology in stocker cattle with BRD	Sun	Deoxycholic acid modulating anaerobes reduces Campylobacter jejuni chicken colonization	68	Role of the T cell receptor with WC1, a co-receptor/pattern recognition receptor, for bovine γδ T cell activation
3:45	3:00 - 3:35	Beyond fences: Policy options for wildlife, livelihoods and transboundary animal disease management in Southern Africa	Shang	Hyperphosphorylation of PRRSV nsp2-related proteins regulates viral subgenomic RNA accumulation.	20	Proviral, antibody and lymphocyte dynamics in steers following intramuscular challenge with Bovine Leukemia Virus	Hutchinson	Preventing bovine babesiosis by characterizing acaricide resistance in cattle fever ticks from Mexico and the US	45	Isolation and standardization of diagnostic assay for the detection of Bacillus anthracis in livestock	Smith	Pangenome analysis of Ornithobacterium rhinotracheale clinical isolates and vaccine strains from US turkeys.	69	WC1 multigenic family of γδ T cell co-receptors and pattern recognition receptors (PRR) in goats
4:00		Featured Speaker	Constance	Fecal microbiota transplantation shifts microbiome composition and reduces morbidity and mortality associated with PCVAD	21	Development of a novel assay for identifying highly infectious cows with bovine leukosis	Sporer	Bacillus thuringiensis crystal proteins as cures for GI nematodes of pigs, horses, dogs, and ruminants	46	Mycobacterium bovis identification by mass spectrometry MALDI-TOF in cattle and buffalo in Brazil	Jahan	Comparative genome analyses of avian pathogenic Escherichia coli from commercial turkey and broiler production	70	Identification of major Culicoides allergens and immune biomarkers of Culicoides hypersensitivity in United States
4:15	5	Roudtable discussion	NC229 Business Meeting		22	Characterizing reassortment between endemic bluetongue virus strains using an in vitro system	Kopanke	Detection of pathogens associated with different tick species collected from elk in Missouri	47	Diagnostic potential of antigenic proteins of Gastrothylax crumenifer for bovine amphistomosis	Nelson	Development of the Ply1 bacteriophage endolysin for treatment of streptococcus suis	71	Detection of chicken heterodimeric interleukin-12 and 23 using specific monoclonal antibodies to their subunits
4:30	3:35 - 4:10	Closing remarks			23	Regulation of latency-reactivation cycle by ORF2 and beta-catenin/Wnt signaling pathway	Jones	Towards novel acaricide development against R. microplus: GPCR target validation and chemical lead identification	48	A fully automated POKKIT Central PCR system for evaluation of the infectious bronchitis vaccination uniformity	Nicholson	Comparative Genomic and Virulence Analysis of Streptococcus suis Isolates	72	Cytokine and antibacterial peptide response in canine whole blood cell cultures stimulated with Leptospira
4:45	4:10 - 4:40	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break
5:00 - 5:30 pm	4:40 - 4:45	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break	Break
5:30 - 6:30 pm	Opening Comments and Dedication of CRWAD 2018 - Chicago D/E (5th)							Opening Comments and Dedication of CRWAD 2018 - Chicago D/E (5th)						
6:30-8:30	CRWAD Council Keynote: Dr. Guy Palmer - Animal health as a Driver to Achieve the Sustainable Development Goals							CRWAD Council Keynote: Dr. Guy Palmer - Animal health as a Driver to Achieve the Sustainable Development Goals						
	Poster Session I and Opening Reception -- Salon III (7th)							Poster Session I and Opening Reception -- Salon III (7th)						

Monday, Dec. 3	Presenter Abstract #	Chicago D (5th) Title	Presenter Abstract #	Chicago E (5th) Title	Presenter Abstract #	Chicago A/B (5th) Title	Presenter Abstract #	Chicago C (5th) Title	Presenter Abstract #	Chicago F/G (5th) Title	Presenter Abstract #	Avenue (4th) Title	Presenter Abstract #	Marrriott (4th) Title
Time:	Session 29	AAVI-SMI Immunology Minisymposium	Session 30	Metagenomic Assessment of Antimicrobial Resistance	Session 31	Disease Modeling	Session 32	Antimicrobial Use & Resistance - Companion Animals	Session 33	Microbiome	Session 34	Zoonosis	Session 35	Virology
2:00 PM	Lear 151	Exploring placental immunity: exosomal cargo in pregnant sheep infected with bovine viral diarrhoea virus	Weinroth 157	Metagenomic characterization of antimicrobial resistance in cull cows at slaughter	Webb 169	Estimation and comparison of foot and mouth disease spatial spread parameters for three outbreaks	Love 181	Selection of methicillin-resistant Staphylococcus pseudintermedius by non-β-lactam antimicrobials in dogs	Megahed 193	Impacts of environmental complexity on microbial community characteristics in growing pigs	Lyons 205	I-TICK: increasing tick surveillance in Illinois through collaboration between governmental, academic, and citizen	Ciobanu 217	Investigation of host genetic role in PCV2 and PRRSV susceptibility
2:15	AAVI - Distinguished Immunologist		Thomas 158	A comparison of the resistome and microbiome of conventional and natural retail ground beef products	Torremorell 170	Characterization of influenza diversity in piglets and risk factors for diversity: role of sow vaccination	Lavigne 182	Barriers to improving antibiotic prescribing behavior among companion animal veterinarians: cost is key	Beyene 194	Antimicrobial resistance in gut bacteria of cattle administered with metaphylactic and therapeutic antimicrobials			Kang 218	Sputum processing method for rapid diagnosis of Middle East respiratory syndrome coronavirus (MERS-CoV)
2:40	Gershwin 152	Comparative immunobiology: from asthma to vaccines	Doster 159	Metagenomic characterization of the microbiome and resistome in ground beef	Paploski 171	Spatiotemporal patterns of different genetic subtypes of PRRS in pig movement networks	Qekwana 183	Occurrence and predictors of respiratory tract infection and antimicrobial resistance among dogs, South Africa	Hill 195	Association between the tonsil microbiota and clinical Streptococcus suis infection	Cain 207	Factors associated with rabies vaccination of dog shelter workers	Van de Walle 219	Characterization of recently discovered liver-tropic viruses in horses
2:45			Doster 160	Antimicrobial use in beef feedlots: effects on microbiome and resistome dynamics	Jara 172	Spatial distribution and spread of Leptospira serovars in Brazil and New Zealand using ecological niche models	Adams 184	Intrauterine antibiotic infusion increases antimicrobial resistance in the reproductive microbiota of mares	Pilch 196	Characterization of the microbiota of recycled dairy bedding sand and the ability of Salmonella to persist	Omodo 208	Characterization of circulating rabies virus in animals and knowledge, attitude and practice on rabies in Uganda	Lee 220	Genomics-informed reconstruction of global migration of Equine influenza virus identified from 2012 to 2017
3:00	Featured Speaker	Mucosal immune development in pig intestines related to gut microbiota	Bulut 161	Transfer of antimicrobial resistance from beef cattle with different antimicrobial uses through manure management	Cazer 173	Network analysis applied to association rules identifies resistance patterns in chicken-associated Escherichia coli	Huber 185	Epidemiology of macrolide and rifampicin resistance in isolates of Rhodococcus equi at horse farms in the USA	Raabis 197	The nasopharyngeal microbiota of pre-weaned dairy calves with and without ultrasonographic lung lesions	Khrongsee 209	Case report: first successful treatment and management of canine melioidosis	Izumiya 221	Oncogenic Pathways of Marek's Disease Virus; Viral Non-coding RNA Expression and Replication
3:15	Bailey 153		Kastendieck 162	A bioinformatics approach to mobile genetic elements: understanding the ecology in a feedlot setting.	Slizovkiy 174	Characterizing risks of mobilizing antibiotic resistance in beef production: A metagenomics-network approach	Álvarez-Narváez 186	Paradoxical evidence of clonal spread of macrolide- and rifampin-resistant R. equi isolates	Dean 198	Sampling considerations for conducting large-scale microbial ecology studies of cow udder epithelium.	Beyene 210	One-health approach to evaluate canine rabies vaccination in Ethiopia	Boley 222	Susceptibility of layer chickens to infection by porcine deltacoronavirus
3:30-4:15 PM	CRWAD Business Meeting and Listening Session - Chicago D (5th)							CRWAD Business Meeting and Listening Session - Chicago D (5th)						
Time:	Session 36	AAVI-SMI Immunology Minisymposium	Session 37	Antimicrobial Use & the Microbiome	Session 38	Epidemiology	Session 39	Antibiotic Alternatives	Session 40	Microbiome	Session 41	Zoonosis	Session 42	Porcine Reproductive & Respiratory Syndrome Virus
4:15 PM	Featured Speaker		Aref 163	Gut microbiome ecosystem in ceftiofur-challenged preweaned lambs	Benitez 175	Effect of bovine leukosis virus on beef cow longevity	Adhikari 187	Evaluation of Bacillus direct-fed microbial for control of necrotic enteritis in chickens	Valeris-Chacin 199	Campylobacter and microbiome interactions in broiler litter: a matched case-control study	Pham Quang 211	The model of anthrax transmission in human and animal in Vietnam	Rodriguez-Zas 223	Impact of PRRSV infection during pregnancy on metabolic indicators
4:30	Kogut 154	Gut health in food animals especially in chicken	Loft 164	The in-feed antibiotic bacitracin modulates microbiome and metabolome profiles in a dose-dependent manner	Mora-Diaz 176	Seroprevalence of Porcine hemagglutinating encephalomyelitis virus in sow herds in the United States	Johnson 188	Antibiotic-free alternatives to improve health and performance in commercial turkeys	Dunn 200	The role of host genetic resistance and vaccination on transmission of Marek's disease virus in poultry	Rossouw 212	Seroprevalence and risk factors of human Brucellosis in a farming community in South Africa, 2015-2016	Li 224	Interactome analysis of nsp1beta protein of porcine reproductive and respiratory syndrome virus
4:45	Featured Speaker	Delineating dendritic cell subsets and their responses to classical swine fever virus infection in lymphoid tissue	Basbas 165	Effect of dry cow antimicrobial treatment on fresh cow's milk microbiota	Giang 177	Estimating the Basic Reproduction Number of a Streptococcus suis outbreak within a swine herd in Ontario, Canada	Dawes 189	Antibiotic-free alternatives to improve health and performance in commercial turkeys	Ngunjiri 201	Respiratory microbiota of chicken layers: diversity, dynamics, and correlations with vaccines & infections	Ekong 213	A systematic review of seroprevalence of Rift Valley fever in humans, livestock, and wildlife in affected regions	Tang 225	Control of PRRSV infection by inhibition of CD163 expression in pig macrophages
5:00	Summerfield 155		Zeineldin 166	Perinatal tetracycline administration enriched early life antimicrobial resistome in piglets.	Siegford 178	Reducing production losses using behavioral and genomic tools to identify pigs suited for group living	Zhou 190	Nanoparticle delivery of CRISPR/Cas9-based antimicrobials	Mellata 202	Genetic and biological stress markers of layers from different commercial poultry housing systems	Jirantasak 214	Serodiagnosis of swine melioidosis in intensive pig farming systems in southern Thailand	Yan 226	Genetic characterization of emerging PRRSV in the U.S.: new features of -2/-1 ribosome frameshifting in nsp2 region
5:15	Featured Speaker	Uterine and fetal responses to Zika virus infection in the porcine model	Gaire 167	Age dynamics of fecal microbiome composition and AMR are similar in production and breeder swine	Uribe Corrales 179	Relationship between pre-slaughter handling plus welfare practices on pork quality in Valle de Aburrá, Colombia	Galvao 191	Using chitosan microparticles to treat metritis in lactating dairy cows.	Cook 203	Sampling method: the first obstacle in next generation sequencing studies in a veterinary hospital environment	Lee 215	Seroprevalence of zoonotic diseases (leptospirosis and Japanese encephalitis) in swine from 10 provinces in Vietnam	Stoian 227	Domains and peptide sequences in CD163 involved in recognition by PRRSV
5:30	Kamiyuchuk 156		Worsley-Tonks 168	Antimicrobial resistance in urban mesocarnivores	Denich 180	Investigation into the serotypes of Streptococcus suis in nursery pigs from Ontario, Canada	Ryan 192	Effect of ceftiofur crystalline-free acid administration on gastrointestinal microbiota of healthy adult horses	Afshan 204	Genetic diversity of Gigantocotyle explanatum (Trematoda: Paramphistomidae) from buffalo, Pakistan	O'Shaughnessy 216	Clostridium difficile on Ohio swine farms: Comparing swine and human environments and assessing on-farm risk factors	Doeschl-Wilson 228	Is PRRSV viremia rebound preventable? Evidence from a data-supported mechanistic model of the immune response
5:45	Break		Break		Break		Break		Break		Break		Break	
6:00-8:00 PM	Poster Session II – Salon III (7th)							Poster Session II – Salon III (7th)						

Tuesday, Dec. 4	Presenter Abstract #	Chicago D (5th) Title	Presenter Abstract #	Chicago E (5th) Title	Presenter Abstract #	Chicago A/B (5th) Title	Presenter Abstract #	Chicago C (5th) Title	Presenter Abstract #	Chicago F/G (5th) Title	Presenter Abstract #	Avenue (4th) Title	Presenter Abstract #	Marrriott (4th) Title	
Time:	Session 43	Population Health Featured Speakers	Session 44	Foodborne Pathogens	Session 45	Disease Pathogenesis	Session 46	Epidemiology - Companion Animals	Session 47	Bacteriology - Cattle	Session 48	Virology	Session 49	Vaccines & Vaccinology	
Tuesday	8:30 AM	Featured Speaker The social determinants of prescribing: leveraging social science to improve the use of antibiotics	Stout	Modeling public health effects of immune priming by naturally occurring virulence attenuated <i>Listeria monocytogenes</i>	Blikslager	Piglets have reduced epithelial wound healing associated with an immature enteric glial cell network	Sanglikar	How long will my horse shed <i>Salmonella</i> ? - A preliminary evaluation	Perea	Molecular epidemiology of cattle tuberculosis in Mexico through whole genome sequencing and spoligotyping	Hou	A Tyrosine-Based Sorting Motif in PEDV Spike Protein is an Endocytosis Signal and Contributes to Viral Virulence	Rowe	A novel supplementation approach to enhance host response to sublingual vaccination	
	8:45		Szymczak	Baruch	Enterohemorrhagic <i>Escherichia coli</i> (EHEC) prevalence on hides and feces of cull dairy cattle at harvest	Kim	Serological profiles of sows and their offspring after experimental infection with Seneca Valley virus (SVV)	Vogt	Efficacy of the Borrelia burgdorferi vaccine in dogs in North America: a systematic review and meta-analysis	Hadi	DNA selection against <i>Mycobacterium bovis</i> -specific biomarkers for rapid diagnosis of bovine tuberculosis	Wang	Molecular attenuation mechanisms of porcine epidemic diarrhea virus (PEDV) in pigs	Hoyos-Jaramillo	T cell populations in calves infected with BVDV + IBR after intranasal vaccination and trace minerals injection
	9:00		229	236	248	260	272	284	296	Oh	Caspase-mediated cleavage of nucleocapsid protein of a protease-independent strain of genogroup 2 PEDV	285	Flemming	Transcriptomic analysis of varying immune responses to BRD vaccination in BVDV challenged cattle	
	9:15	Featured Speaker Spatio-temporal approaches to surveillance sampling for disease detection	Stromberg	Lon protease is upregulated in Shiga toxin-producing <i>Escherichia coli</i> strains during intestinal colonization	Taylor	Tripartite collaborative: identification of regulatory element variants impeding immune response to BRD pathogens	Woodruff	Number of dogs entering shelters in 5 states and factors affecting their outcomes: a study of the sheltering system	Inzana	The interactive nature of <i>Histophilus somni</i> & <i>Pasteurella multocida</i> in a biofilm and their effect on host response	Yuan	Isolation and characterization of a divergent strain of porcine sapelovirus from swine farm in US	Chowdhury	Novel bovine herpesvirus type 1-vectored vaccine against viruses associated with bovine respiratory disease complex	
	9:30		Wang	Remfry	Prevalence of Shiga toxin-producing <i>Escherichia coli</i> in finisher pig feces from commercial production systems	Bickhart	Reassembly of cattle immune gene clusters for quantitative analysis	Howard-Azzeh	Identifying risk factors contributing to opioid poisonings in U.S. pet dogs using data from a Poison Control Center	Zheng	A multiplex real-time PCR assay for the detection and differentiation of five bovine pinkeye pathogens	Chen	Isolation and characterization of a U.S. porcine sapelovirus associated with poliomyelitis	Tabynov	A novel influenza viral vector based <i>Brucella abortus</i> vaccine at the stage of implementation into practice
	9:45		230	239	251	263	275	287	299	Walker	Long-term storage of virulent <i>Leptospira</i> by cryopreservation for rapid in vivo use	288	Temeeyasen	Pathogenicity and immune response against porcine circovirus 3 infection in cesarean derived-colostrum deprive pigs	Jacob
10:00	Break		Break		Break		Break		Break		Break		Break		
10:15	Break		Break		Break		Break		Break		Break		Break		
Time:	Session 50	Population Health Featured Speakers	Session 51	Foodborne Pathogens	Session 52	Disease Pathogenesis	Session 53	Vaccines & Vaccinology	Session 54	Influenza	Session 55	Virology - Pigs	Session 56	Vaccines & Vaccinology - Pigs	
Tuesday	10:30 AM	Featured Speaker Big data and smart-connected epidemiology in practice	Hovdey	Investigating acute environmental drivers of human verocytotoxinogenic <i>Escherichia coli</i> infections in Ontario	Lamont	Rapid transcriptome responses in chicken spleen to avian pathogenic <i>E. coli</i> infection: US-UK collaborative research	Srinivasan	Development of a peptide-based skin test with DIVA capabilities for the diagnosis of bovine tuberculosis	Kapczynski	Differential expression of the M2 protein influences localization and morphology during avian influenza replication	Matias Ferreyra	Development of poliocencephalomyelitis in swine following experimental inoculation with porcine astrovirus type 3	Lu	New fimbriae-toxoid vaccine candidate can induce immunogenic and neutralizing antibodies against porcine ETEC	
	10:45		Martinez-López	Checkley	Epidemiology of Shiga Toxin-Producing and Antimicrobial Resistant <i>Escherichia coli</i> in southern Alberta Well Water	Rhoads	Validation of a SNP panel for selection for ascites resistance in broilers	Menshawy	The use of heat-inactivated <i>Mycobacterium bovis</i> in goats	Xie	A within-host model of H9N2 avian influenza virus infection kinetics in chickens	Buckley	Sequence comparison of historic and contemporary strains of Seneca Valley virus	Sang	Antiviral regulation underlying the activation status of porcine monocytic innate immune cells
	11:00		231	242	254	266	278	290	302	Zeller	N2 neuraminidase and hemagglutinin coordinated evolution increases influenza A virus genetic diversity in swine	291	Gladue	Identification of structural glycoprotein E2 domain critical to mediate Classical Swine Fever Virus replication	Verhoeven
	11:15	Gearhart Award Winner	Sylte	Identifying selective media and isolates of <i>Campylobacter jejuni</i> to experimentally colonize turkey poults	Swiderski	HCN4 mediates airway hyper-responsiveness in pasture-associated severe equine asthma	Kerro Dego	Protective effects of Staphylococcal Surface Proteins as Vaccine Antigens to Control Mastitis in Dairy Cows	Keay	Influenza A virus vaccine research in swine since 1990 - Findings of a scoping review	Choi	Comparison of classical swine fever virus and atypical porcine pestivirus (APPV) Npro	304	Käser	Prediction of vaccine-induced long-term protection via advanced analysis of pathogen-specific memory immune cells
	11:30	232	244	256	268	280	292	304	Garrido	Experimental transmission of influenza A virus from nurse sows to adopted pigs during lactation	Stoian	Survival of ASFV in feed ingredients under transboundary shipping conditions	305	Gladue	Rapid development of experimental live attenuated vaccines for outbreak strains of African swine fever virus
	11:45	Bassel	Mannheimia haemolytica & <i>Mycoplasma bovis</i> in the nasal cavity of feedlot cattle: temporal and disease associations	Megahed	Antimicrobial efficacy of ozone on <i>Salmonella</i> contaminated chicken carcasses using the sequential washing system	Taylor	Ascorbic acid and low-dose hydrocortisone therapy in an equine model of sepsis	Choi	Tip-separable dissolving microneedle for vaccination: application in intradermal canine influenza vaccine delivery	281	289	293	294	294	294
12:00	Break		Break		Break		Break		Break		Break		Break		
12:15 - 1:30 PM	Closing Comments and Award Presentations - Chicago D (5th)							Closing Comments and Award Presentations - Chicago D (5th)							
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