



Forum

## 2016 ACVIM Forum Research Abstract Program

2016 ACVIM Forum Research Abstract Program  
Denver, Colorado, June 9–10, 2016  
Index of Abstracts

### ORAL PRESENTATIONS – Thursday, June 9

Time	#	Presenting Author	Abstract Title
<b>CARDIOLOGY</b>			
9:00 am	C01	Bryan Eason	Sinus Rate Approximation with VVI, VVIR, and VDD in Dogs with Third Degree Atrioventricular Block ( <i>ACVIM Resident Research Award Eligible</i> )
9:15 am	C02	Janne Lyngby	Validation of a Method for Quantitation of Clopidogrel and Clopidogrel Active Metabolite in Feline Plasma ( <i>ACVIM Resident Research Award Eligible</i> )
9:30 am	C03	Dar Ozer	Efficacy of Bronchial Stenting in Dogs With Myxomatous Mitral Valve Disease and Bronchial Collapse ( <i>ACVIM Resident Research Award Eligible</i> )
9:45 am	C04	J.D. Rhinehart	Study of Echocardiographic Variability in Estimating Pulmonary Artery Pressure and Pulmonary Vascular Resistance in Dogs ( <i>ACVIM Resident Research Award Eligible</i> )
10:30 am	C05	Kursten Roderick	Changes in NT-PROBNP Associated with Treatment and Survival Time in Cats with Congestive Heart Failure ( <i>ACVIM Resident Research Award Eligible</i> )
10:45 am	C06	Courtney Smith	Right Ventricular Outflow Tract Obstruction and Coronary Anatomy in French and English Bulldogs with PS ( <i>ACVIM Resident Research Award Eligible</i> )
11:00 am	C07	Melissa Tropf	Cardiac Function and Metabolic Parameters in Obese Dogs ( <i>ACVIM Resident Research Award Eligible</i> )
11:15 am	C08	Darcy Adin	Comparison of Furosemide Infusion Diluted with 2.4% Hypertonic Saline Vs. Dextrose 5% in Water (D5W)
11:30 am	C09	Amelie Beaumier	Medical Management and Survival Time Associated with Congestive Heart Failure Stage D: A Retrospective Study
11:45 am	C10	A. Ray Dillon	MRI 7T Resonance Spectroscopy (MRS) Predicts Cardiac Energetic Reserves in Dogs with Preclinical Mitral Insufficiency
12:00 pm	C11	Chris Lam	Immunohistochemical Study of the Pro-Natriuretic Peptide Convertase Corin in Severe Canine Myxomatous Mitral Valve Disease
12:15 pm	C12	Giulio Mencioti	Anatomic Regurgitant Orifice Area Using 3D-Echocardiography in Dogs with Myxomatous Mitral Valve Disease
2:15 pm	C13	Takeshi Mizuno	Analysis of Mitral Valve Morphology with Real-Time 3-Dimensional Echocardiography in Dogs Undergoing Mitral Valve Repair

2:30 pm	C14	Lisbeth Olsen	Low-Density Lipoprotein Oxidation Is Breed and Gender Dependent in Dogs with Myxomatous Mitral Valve Disease
2:45 pm	C15	Nicole LeBlanc	Cardiac Output Measured By Echocardiography and Cardiac-Gated Computed Tomography Compared to Thermodilution
3:00 pm	C16	Kathryn Meurs	Angiotensin Converting Enzyme Activity and Response to Enalapril in Dogs with an Ace Gene Polymorphism
3:15 pm	C17	Kathryn Meurs	Angiotensin Converting Enzyme Activity in Cavalier King Charles Spaniels with an Ace Gene Polymorphism
3:30 pm	C18	Laura Nafe	Prevalence of <i>Dirofilaria immitis</i> Antigen in Client-Owned Pet Dogs Before and After Serum Heat Treatment
3:45 pm	C19	Lena Pelander	Cardiac Biomarkers Troponin I and N-Terminal Pro-B-Type Natriuretic Peptide in Canine Chronic Kidney Disease Patients
4:30 pm	C20	Rebecca Tracey	Establishing Normal 24 Hour Holter Monitor Values in Healthy Puppies
4:45 pm	C21	Jessica Ward	Distribution of Alveolar-Interstitial Syndrome in Dyspneic Veterinary Patients Assessed By Lung Ultrasound Versus Thoracic Radiographs

**ONCOLOGY**

9:00 am	O01	Zachary Neuman	The Association of Endothelin-1 Signaling with Bone Alkaline Phosphatase Expression and Pro-tumorigenic Activities in Canine Osteosarcoma ( <i>VCS Award Winner</i> )
9:15 am	O02	MacKenzie Pellin	Safety Evaluation of Combination Doxorubicin and Toceranib Phosphate (Palladia) in Tumor Bearing Dogs: a Phase I Dose Finding Study ( <i>VCS Award Winner</i> )
9:30 am	O03	Jerome Calvalido	Comparison of Serum Cytokine Levels Between Dogs with Multicentric Lymphoma and Healthy Dogs ( <i>ACVIM Resident Research Award Eligible</i> )
9:45 am	O04	Zachary Crouse	Post-Chemotherapy Perforation in Cats with a Diagnosis of Intermediate or High Grade Gastrointestinal Lymphoma ( <i>ACVIM Resident Research Award Eligible</i> )
10:30 am	O05	Sindy Piscoya	A Retrospective Study on the Incidence of Proteinuria Associated with the Use of Toceranib Phosphate ( <i>ACVIM Resident Research Award Eligible</i> )
10:45 am	O06	Krystal Harris	Growth Pathways in Feline Oral Squamous Cell Carcinoma
11:00 am	O07	Michelle Turek	A Retrospective Analysis of Multimodality Treatment for Canine Oral Melanoma: 126 Cases
11:15 am	O08	Lucia Borlle	Enhancement of Doxorubicin Effectiveness When Combined with Salinomycin in FISS Cell Lines
11:30 am	O09	Martha MaloneyHuss	Clinical Advancement of a RNA-Transfected CD40-B Cell Vaccine for the Treatment of Canine Non-Hodgkin's Lymphoma
11:45 am	O10	Nicole Weidner	Vitamin D Status and Acute Phase Protein Concentrations in Canine Cancer Patients
12:00 pm	O11	Jenny Ellis	Retrospective Evaluation of Metronomic Cyclophosphamide in Epithelial and Mesenchymal Malignant Tumours

**NEUROLOGY**

9:00 am	N01	Michele Provencher	Kinematic Magnetic Resonance Imaging for Evaluation of Disc-Associated Cervical Spondylomyelopathy in Doberman Pinschers ( <i>ACVIM Resident Research Award Eligible</i> )
9:15 am	N02	Melissa Carpentier-Anderson	3D Magnetic Resonance Imaging of the Dog Spine in Hansen Type I Intervertebral Disk Disease ( <i>ACVIM Resident Research Award Eligible</i> )

9:30 am	N03	Aude Castel	Clinical Characteristics of Dogs with Progressive Myelomalacia Following Acute Intervertebral Disc Herniation ( <i>ACVIM Resident Research Award Eligible</i> )
9:45 am	N04	Serene Lai	<i>In Vitro</i> Anti-Tubulin Effects of Benzimidazole Anthelmintics Mebendazole and Fenbendazole on Canine Glioblastoma Cells ( <i>ACVIM Resident Research Award Eligible</i> )
10:30 am	N05	Ilyssa Meren	Subarachnoid-Subarachnoid Shunting for Treatment of Subarachnoid Cerebrospinal Fluid Flow Obstruction in 9 Dogs ( <i>ACVIM Resident Research Award Eligible</i> )
10:45 am	N06	Jessica Rivera	11-Dehydro Thromboxane B2 As a Biomarker for Intracranial Neoplasia in Dogs ( <i>ACVIM Resident Research Award Eligible</i> )
11:00 am	N07	Christine Sibigroth	Lumbar Fractalkine and M2 Microglia Increase Throughout Disease Progression in Canine Degenerative Myelopathy ( <i>ACVIM Resident Research Award Eligible</i> )
11:15 am	N08	Christine Sibigroth	Increased Phosphorylated Neurofilament Heavy in Cerebrospinal Fluid As a Disease Marker of Canine Degenerative Myelopathy ( <i>ACVIM Resident Research Award Eligible</i> )
11:30 am	N09	Muna Qahwash	Etiology of Feline Juvenile Onset Seizures ( <i>ACVIM Resident Research Award Eligible</i> )
11:45 am	N10	Samantha Vitale	Comparison of Serum Trace Nutrient Concentration in Dogs with Primary Genetic Epilepsy Versus Healthy Dogs
12:00 pm	N11	Devon Hague	Lactate As a Prognostic Factor in Dogs and Cats with Head Trauma: 93 Cases (2003–2014)
12:15 pm	N12	Nick Jeffery	Comparison of Fecal Microbiomes Between Dogs with Meningoencephalomyelitis of Unknown Origin and Controls

#### SMALL ANIMAL INTERNAL MEDICINE – ENDOCRINOLOGY\*\*

2:15 pm	EN01	Nubia Lopes	Glucose Homeostasis Deteriorates More Rapidly with Age in Burmese Cats Compared to Non-Burmese
2:30 pm	EN02	Arnon Gal	Perturbations in Serum Fructosamine Level in Diabetic Hyperthyroid Cats – A Retrospective Study
2:45 pm	EN03	Hannah Pipe-Martin	Pharmacodynamic and Pharmacokinetic Properties of Insulin Aspart Following Subcutaneous and Intramuscular Injection in Cats ( <i>ACVIM Resident Research Award Eligible</i> )
3:00 pm	EN04	Isabelle Rast	The Effect of Tetra-Hydroxylated Bile Acid on Adipocyte Size and Insulin Sensitivity in Healthy Cats ( <i>ACVIM Resident Research Award Eligible</i> )
3:15 pm	EN05	Chen Gilor	The Effect of Adiposity and Diet on Secretion of Incretin Hormones in Cats
3:30 pm	EN06	Victoria Crossley	Breed, Coat Colour and Hair Length As Risk Factors for Feline Hyperthyroidism
3:45 pm	EN07	Allison Rowland	Does a Limited Iodine Diet Affect the Response to Radioactive Iodine Therapy in Hyperthyroid Cats?
4:30 pm	EN08	Vincent Ziglioli	Effects of Levothyroxine Administration and withdrawal on the Hypothalamic-Pituitary-Thyroid Axis in Euthyroid Dogs ( <i>ACVIM Resident Research Award Eligible</i> )
4:45 pm	EN09	Alisdair Boag	Variability of P450 <sub>sc</sub> Autoantibody Persistence in Dogs Affected with Hypoadrenocorticism
5:00 pm	EN10	Emily Brown	Juvenile Hypoadrenocorticism in the Nova Scotia Duck Tolling Retriever: A Recessive Monogenic Autoimmune Disease
5:15 pm	EN11	Arnon Gal	Variability in Post ACTH Stimulation Serum Cortisol Following Administration of Cortisone Acetate in Healthy Dogs

5:30 pm EN12 Muzzammil Sayyid Ionized Hypercalcemia in Cats: Etiologies and Associated Clinical Signs

*\*\*Also See Small Animal Internal Medicine – Endocrinology abstracts, Friday, June 10.*

#### **SMALL ANIMAL INTERNAL MEDICINE – GASTROENTEROLOGY\*\***

- 2:15 pm GI01 Lauren Cochran Serum Pancreatic Lipase Immunoreactivity Concentrations in Dogs with Gastrointestinal Foreign Bodies (*ACVIM Resident Research Award Eligible*)
- 2:30 pm GI02 Sarah Cocker Serum Pancreatic Lipase Immunoreactivity Concentrations After Chronic Administration of Supraphysiologic Doses of Glucocorticoids to Dogs (*ACVIM Resident Research Award Eligible*)
- 2:45 pm GI03 Agostino Buono Serum Il-2, Il-6, Il-8, and TNF- $\alpha$  Concentrations in Dogs with Increased Serum Spec CPL Sup<sup>®</sup> Concentrations
- 3:00 pm GI04 Micah Bishop Fishhook Foreign Bodies in Dogs and Cats: 107 Cases (2004–2015)
- 3:15 pm GI05 Alana Redfern-Allen Perturbations of the Intestinal Microbiota and Bile Acid Metabolism in Dogs with Diabetes Mellitus (*ACVIM Resident Research Award Eligible*)
- 3:30 pm GI06 J.B. Honneffer Variation of the Microbiome and Metabolome Along the Canine Gastrointestinal Tract
- 3:45 pm GI07 Jan Suchodolski Effects of Hydrolyzed Protein and Metronidazole on the Fecal Microbiome and Metabolome in Healthy Dogs
- 4:30 pm GI08 Blake Guard Altered Fecal Bile Acid Metabolism in Dogs with Chronic Enteropathy
- 4:45 pm GI09 J.B. Honneffer Altered Fecal Sterol Profiles in Dogs with Chronic Inflammatory Enteropathy
- 5:00 pm GI10 Jan Suchodolski The Fecal Microbiome of Dogs with Exocrine Pancreatic Insufficiency
- 5:15 pm GI11 Adam Rudinsky Effect of Weight Loss and Diet on Fecal Microbiota and Fecal Metabolomics in Cats
- 5:30 pm GI12 Albert Jergens Probiotic Mixture Vsl#3 Increases Beneficial Fecal and Mucosal Microbiota in Canine Inflammatory Bowel Disease
- 5:45 pm GI13 Julien Dandrieux Changes in Intestinal Macrophage Populations Following Clinical Resolution in Dogs with Chronic Enteropathy
- 6:00 pm GI14 Sara Wennogle Histopathologic Characteristics of Intestinal Biopsies From Dogs with Chronic Enteropathy with and without Hypoalbuminemia (*ACVIM Resident Research Award Eligible*)

*\*\*Also See Small Animal Internal Medicine – Gastroenterology abstracts, Friday, June 10.*

#### **SMALL ANIMAL INTERNAL MEDICINE – HEMATOLOGY**

- 9:00 am HM01 Benoît Cuq Reproducibility, Stability and Biological Variability of Thrombin Generation Using Calibrated Automated Thrombography in Healthy Dogs (*ACVIM Resident Research Award Eligible*)
- 9:15 am HM02 Kelly Makielski Development and Validation of a Novel Canine Immune Thrombocytopenia Bleeding Score (*ACVIM Resident Research Award Eligible*)
- 9:30 am HM03 Natalie McLewee Effects of Aspirin Dose Escalation on Canine Platelet Function and Urinary Thromboxane and Prostacyclin Levels (*ACVIM Resident Research Award Eligible*)
- 9:45 am HM04 Jessica Pritchard B Cell Activating Factor As a Biomarker in Dogs with Primary Immune Mediated Thrombocytopenia
- 10:30 am HM05 Sophie Saati Comparison of Multiplate, Platelet Function Analyzer-200, and Plateletworks in Dogs Treated with Aspirin and Clopidogrel (*ACVIM Resident Research Award Eligible*)

10:45 am	HM06	Jenny Ellis	Evaluation of the Risk of Relapse of Canine Immune-Mediated Thrombocytopenia After Routine Vaccination
11:00 am	HM07	Rachel Hegedus	Predicting <i>In Vivo</i> Response to Low-Dose Aspirin in Healthy Dogs Using <i>In Vitro</i> Platelet Aggregometry
11:15 am	HM08	Cyril Parachini-Winter	Retrospective Evaluation of Anemia and Erythrocyte Morphology in Dogs with Lymphoma and Inflammatory Bowel Disease
11:30 am	HM09	Michele Wilkinson	An In-Vitro Assessment of Canine to Feline Red Blood Cell Xenotransfusion
11:45 am	HM10	James Swann	Characterization of the Immunophenotype of Dogs with Immune-Mediated Hemolytic Anemia ( <i>ACVIM Resident Research Award Eligible</i> )
12:00 pm	HM11	Masahiko Sato	A Retrospective Study on Use of Leflunomide in Dogs with Immune Mediated Diseases ( <i>ACVIM Resident Research Award Eligible</i> )
12:15 pm	HM12	Samantha Muro	Effects of Leukoreduction and Storage on Eicosanoid Concentrations in Units of Canine Packed Red Cells ( <i>ACVIM Resident Research Award Eligible</i> )

#### SMALL ANIMAL INTERNAL MEDICINE – INFECTIOUS DISEASE

2:15 pm	ID01	Elena Contreras	Evidence for Genetic Predisposition to <i>Borrelia burgdorferi</i> Infection in Purpose Bred Beagles
2:30 pm	ID02	Kirsten Cooke	Rapid Diagnosis of <i>Babesia gibsoni</i> Using Point-of-Care Insulated Isothermic Polymerase Chain Reaction Assay
2:45 pm	ID03	Robert Six	Prevention of <i>Borrelia burgdorferi</i> and <i>Anaplasma phagocytophilum</i> Transmission From <i>Ixodes scapularis</i> to Dogs By Sarolaner
3:00 pm	ID04	Milica Kovacevic Filipovic	Molecular and Serological Analysis of Canine Vector Borne Disease Prevalence in Most Populated Serbian Area
3:15 pm	ID05	Diana Scorpio	Enhanced Serologic Surveillance to Detect Prevalence of Canine Vector-Borne Infections on St. Kitts, West Indies
3:30 pm	ID06	Julie Levy	Performance of Point-of-Care Assays for FELV and FIV
3:45 pm	ID07	Cynda Crawford	Does a Diva Test Exist for Differentiating FIV Infection From FIV Vaccination?
4:30 pm	ID08	Morihiro Tateno	An Epidemiological Study of Gammaherpesviruses in Domestic Cats in Japan
4:45 pm	ID09	Nyssa Reine-Salz	Canine Influenza H3N2 Infection in Four Dogs
5:00 pm	ID10	Rhonda LaFleur	Demonstration of Protection Against Canine Influenza Virus H3N2 Infection Following Vaccination with Inactivated CIV H3N2
5:15 pm	ID11	Nyssa Reine-Salz	Prevalence of Canine Infectious Respiratory Disease Complex Pathogens in Dogs in Georgia and North Carolina
5:30 pm	ID12	Jason Stull	Frequency, Benefits and Health Risks of Animals in Nursing Homes: Cross-Sectional Study of Ohio Facilities
5:45 pm	ID13	Modest Vengust	Effect of Quorum Quenching with Azithromycin on <i>Pseudomonas aeruginosa</i> Associated Otitis Externa/Media in Dogs

#### SMALL ANIMAL INTERNAL MEDICINE – NUTRITION/METABOLISM

9:00 am	NM01	Hanna Mila	Effect of the Hyper-Immune Egg Yolk Supplementation on Weight Gain in Neonate Puppies
9:15 am	NM02	Yuanlong Pan	Effects of Dietary Medium Chain Triglycerides on Voluntary Activity in Dogs and Cats

- 9:30 am NM03 Dagmar Tarkosova Effects of Dietary Macronutrient Content and Feeding Pattern on Leptin Concentrations in Lean Healthy Cats
- 9:45 am NM04 Hui Xu Effect of High Sodium Diet on Blood Pressure and Cardiac Function in Healthy Adult Dogs.

#### SMALL ANIMAL INTERNAL MEDICINE – NEPHROLOGY/UROLOGY

- 9:00 am NU01 Sarah Guess Longitudinal Evaluation of Serum Symmetric Dimethylarginine (SDMA) and Creatinine (SCR) in Dogs with Early CKD (*ACVIM Resident Research Award Eligible*)
- 9:15 am NU02 Julie Cross SDMA Correlates Better with Creatinine Than High Throughput Immunoturbidometric Cystatin C Assay in Feline Serum
- 9:30 am NU03 Laura Harjes Fibroblast Growth Factor-23 in Canine Chronic Kidney Disease (*ACVIM Resident Research Award Eligible*)
- 9:45 am NU04 E. Hathaway Fiocchi The Use of Darbeopetin Alfa to Stimulate Erythropoiesis in Dogs with Chronic Kidney Disease (*ACVIM Resident Research Award Eligible*)
- 10:30 am NU05 Fernanda Chacar Vitamin D-Binding Protein – Early Marker of Tubular Injury in Dogs with Chronic Kidney Disease
- 10:45 am NU06 Stacie Summers Assessment of Repeated Administration of a Feline FVRCP Vaccine As a Model for Interstitial Nephritis (*ACVIM Resident Research Award Eligible*)
- 11:00 am NU07 Ellen Behrend Comparison of Visual and Automated Interpretation of Urinary Dipsticks with Glucose:Creatinine Ratio and Glucose Concentration
- 11:15 am NU08 Kanae Takada Impact of Canine Pancreas-Specific Lipase on the Outcome of Dogs with Hemodialysis-Dependent Acute Kidney Injury
- 11:30 am NU09 Jonathan Foster Characterization of Subclinical Bacteriuria, Urinary Tract Infection, and Pyelonephritis in Dogs with Chronic Kidney Disease
- 11:45 am NU10 Ewan Wolff Initial Outcomes and Complications of the Subcutaneous Ureteral Bypass Procedure at Two University Hospitals (2012–2015) (*ACVIM Resident Research Award Eligible*)
- 12:00 pm NU11 Melanie Puchot Occult Urinary Tract Infection in Cats: Prevalence and Findings on Contemporaneous Urinalysis (*ACVIM Resident Research Award Eligible*)
- 12:15 pm NU12 Romy Heilmann Diagnostic Performance of Urinary Canine Calgranulins in Dogs with Lower Urinary Tract Carcinoma

#### SMALL ANIMAL INTERNAL MEDICINE – PHARMACOLOGY

- 10:30 am P01 Leanne Fowler Itraconazole Absorption From Proprietary and Compounded Formulations in Healthy Cats
- 10:45 am P02 David Griffin Bioavailability of a Novel Formulation of S-Adenosylmethioine Given with Food in Beagle Dogs
- 11:00 am P03 Dianne Mawby Posaconazole Pharmacokinetics in Cats After oral and IV Administration
- 11:15 am P04 J.E. Slovak Evaluation of Intravenous Mycophenolate Mofetil Use in Healthy Cats

#### SMALL ANIMAL INTERNAL MEDICINE – RESPIRATORY

- 11:30 am R01 Kimberly Hooi Comparison of Bronchoalveolar Lavage Techniques for Sampling Lower Airways in Cats (*ACVIM Resident Research Award Eligible*)
- 11:45 am R02 Aida Vientos-Plotts Characterization of the Feline Respiratory Microbiome (*ACVIM Resident Research Award Eligible*)

**EQUINE\*\***

- 9:00 am E01 Kate Echeverria Pulmonary Disposition and Pharmacokinetics of Oral Minocycline in the Adult Horse (*ACVIM Resident Research Award Eligible*)
- 9:15 am E02 Teresa Burns Intravenous Administration of Cobalt Chloride Is Associated with Hemodynamic Alterations in Horses
- 9:30 am E03 Andrew Gestrich The Pharmacokinetics of Intravenous Gentamicin in Healthy Young-Adult Versus Geriatric Horses
- 9:45 am E04 Nicholas Parkinson Endotoxin-Induced MicroRNA Expression in Equine Peripheral Blood Mononuclear Cells (*ACVIM Resident Research Award Eligible*)
- 10:30 am E05 Nicolas Herteman Severe Equine Asthma (Heaves) Is Associated with an Increased Number of Circulating Low-Density Granulocytes
- 10:45 am E06 Amy Santonastaso Can Levamisole Upregulate the Equine Cell-Mediated Immune Response *In Vitro*?
- 11:00 am E07 Helena Carstensen Novel Pharmacological Treatment Regimes in Equine Atrial Fibrillation
- 11:15 am E08 Linda Frelstedt Can Exercising Electrocardiography Predict Performance in Young Standardbred Horses at the Start of Training?
- 11:30 am E09 Eva Hesselkilde Is ECG in Horses Only for Dysrhythmia Diagnosis? Introducing a New Method for 12-Lead ECG
- 11:45 am E10 Kate Hepworth-Warren Humoral Hypercalcemia of Malignancy in Horses: A Retrospective Study (2010–2015)
- 12:00 pm E11 Gonçalo Silva Development of a Technique for Determination of Pulmonary Artery Pulse Wave Velocity in Horses (*ACVIM Resident Research Award Eligible*)
- 12:15 pm E12 Olivia Lorello Repeated Measurements of Autonomic Tone Markers Over a Training Season in Eventing and Endurance Horses
- 12:30 pm E35 Breanna Sheahan Normal Ultrasonographic Pleural Thickness in Clinically Healthy Adult Horses (*ACVIM Resident Research Award Eligible*)
- 2:15 pm E13 Steven Grubbs Epidemiological Characteristics of Horses with Hyperinsulinemia in a Large Population of Horses
- 2:30 pm E14 Steven Grubbs Management of Early PPID in Horses
- 2:45 pm E15 Nicholas Frank Development of an Octreotide Response Test for Detection of Insulin Dysregulation in Horses
- 3:00 pm E16 Nicholas Frank Insulin and Incretin Hormone Concentrations in Horses During an Oral Sugar Test and Pasture Challenge
- 3:15 pm E17 Katarzyna Dembek Association of Androgens and Pregnanes Response to ACTH Stimulation with Adrenal Dysfunction in Hospitalized Foals
- 3:30 pm E18 Katarzyna Dembek Association of Oxytocin and Neurosteroids with Neonatal Maladjustment Syndrome (NMS) in Hospitalized Foals
- 3:45 pm E19 Elaine Norton Identification of Genetic Loci Underlying Equine Metabolic Syndrome and Laminitis Risk in Welsh Ponies
- 4:30 pm E20 Ramiro Toribio The Fibroblast Growth Factor-23/Klotho Axis in Healthy and Hospitalized Foals
- 4:45 pm E21 Jennifer Brown Effect of RRR-Alpha-Tocopherol Formulation on Serum and CSF Alpha-Tocopherol Concentrations in Vitamin E Deficient Horses (*ACVIM Resident Research Award Eligible*)

5:00 pm	E22	Ann Kemper	Differential Gene Expression in Equine Subcutaneous and Internal Adipose Depots ( <i>ACVIM Resident Research Award Eligible</i> )
5:15 pm	E23	Elizabeth Nelson	Effects of a Commercial Anionic Supplement on Urinary Acidification in Horses ( <i>ACVIM Resident Research Award Eligible</i> )
5:30 pm	E24	Katherine Williamson	Effects of Abrupt Concentrate Increase and Prebiotic Supplementation on Equine Cecal pH and Lactate
5:45 pm	E25	Frank Andrews	Effects of a Supplement (Alfa-Lox Forage <sup>®</sup> ) on Equine Gastric Ulcer Scores and Gastric Juice pH
6:00 pm	E26	Angelika Schoster	Changes of the Equine Neonatal Intestinal Microbiota Associated with Age and Diarrhea
6:15 pm	E27	Daniela Luethy	Comparison of Tube, Gel, and Immunochromatographic Strip Methods for Evaluation of Equine Blood Transfusion Compatibility ( <i>ACVIM Resident Research Award Eligible</i> )

*\*\*Also See Equine abstracts, Friday, June 10.*

#### **FOOD ANIMAL**

9:00 am	F01	Véronique Bernier Gosselin	Prevalence of Coagulase-Negative <i>Staphylococci</i> Species in Intramammary Infection in Dairy Goats ( <i>ACVIM Resident Research Award Eligible</i> )
9:15 am	F02	Diego Gomez	Assessment of an Antimicrobial-Use Algorithm for Treatment of Diarrhea in Dairy Calves
9:30 am	F03	Diego Gomez	Prevalence of Bovine Coronavirus in Feces of Healthy and Diarrheic Calves
9:45 am	F04	Joe Smith	Use of an Alivecor Heart Monitor for Heart Rate and Rhythm Evaluation in Domestic Goats
10:30 am	F05	Rachel Oman	Left Displacement of the Abomasum in Four Beef Calves ( <i>ACVIM Resident Research Award Eligible</i> )
10:45 am	F06	Jennifer Halleran	Apparent Efficiency of Colostral Immunoglobulin Absorption in Holstein Heifers ( <i>ACVIM Resident Research Award Eligible</i> )
11:00 am	F07	Kevin Washburn	Concentrations of Chlorotetracycline in Fetal Tissues Following Oral Administration in the Ewe
11:15 am	F08	Vincent Dore	Hyperketonemia As a Tool to Predict Mortality in Dairy Goat During Last Month of Pregnancy ( <i>ACVIM Resident Research Award Eligible</i> )
11:30 am	F09	Christie Balcomb	Efficacy and Pharmacokinetics of Intravenous Famotidine in Adult Cattle
11:45 am	F10	Andrew Gestrich	The Pharmacokinetics of Intravenous Gentamicin in Healthy Young-Adult Versus Aged Alpacas
12:00 pm	F11	Marie-Ève Bilodeau	Prognosis Associated with Cerebrospinal Fluid Analysis Results in Recumbent Dairy Cattle: Retrospective Study (2006–2014) ( <i>ACVIM Resident Research Award Eligible</i> )



**ORAL PRESENTATIONS – Friday, June 10**

Time	#	Presenting Author	Abstract Title
<b>EQUINE</b>			
2:15 pm	E28	Amanda Adams	Influenza-Specific Immune Responses to a Combination Vaccine in Naïve Ponies
2:30 pm	E29	Amanda Adams	WNV-Specific Immune Responses to a Combination Vaccine in Naïve Ponies
2:45 pm	E30	Brandy Burgess	Characteristics of Infection Control Practices at North American Veterinary Teaching Hospitals
3:00 pm	E31	Sandra Taylor	Anti-Endotoxic Properties of Ketorolac Tromethamine and Flunixin Meglumine in Horses
3:15 pm	E32	Amy Stieler	Effects on Sweating of Chloramphenicol and the Macrolide Gamithromycin: Comparison with Erythromycin
3:30 pm	E33	Arlie Manship	Comparison of the Clinicopathologic Signatures of Equine Coronavirus and <i>Salmonella enterocolitis</i>
3:45 pm	E34	JunJie Liu	Phenotypic Characterization of <i>Sarcocystis neurona</i> Lesions in Gravely Affected Horses
4:30 pm	E36	Jacquelyn Bowser	Syringe Versus Mechanical Suction with N-Butylscopolammonium Effects on BAL Parameters in Horses with Pasture RAO
4:45 pm	E37	Julie Dauvillier	Prevalence of Fungi in Respiratory Samples of Horses with Inflammatory Airway Disease
5:00 pm	E38	Cyprianna Swiderski	Intravenous Magnesium Sulfate As a Rescue Therapeutic for Bronchoconstriction in Horses
5:15 pm	E39	Emily Medlin Martin	Investigation of Misoprostol As a Novel Anti-Inflammatory in Equine Leukocytes
5:30 pm	E40	Sian Durward-Akhurst	Do Endocrine Disrupting Chemicals Play a Role in Horses with Equine Metabolic Syndrome?
5:45 pm	E41	Jane Manfredi	Evaluation of an Oral Sugar Test for Dynamic Assessment of Five Equine Breeds' Insulin Response/Sensitivity
<b>SMALL ANIMAL INTERNAL MEDICINE – GASTROENTEROLOGY</b>			
9:00 am	GI15	Karin Allenspach	Human Granulocyte Immunofluorescence Assay for Anti-Neutrophil Antibodies Shows Strong Association with Canine Food Responsive Diarrhea
9:15 am	GI16	Jonathan Lidbury	Serum Citrulline Concentrations in Dogs with Chronic Enteropathy
9:30 am	GI17	Linda Toresson	Oral Versus Parenteral Cobalamin Supplementation in Dogs with Chronic Enteropathies and Hypocobalaminemia
9:45 am	GI18	Nozomu Yokoyama	Plasma Essential Trace Element Concentrations in Dogs with Chronic Enteropathy
2:15 pm	GI19	Roman Husnik	Validation of Ultrasonographic Measurement of Gastric Emptying Time in Healthy Cats Using Radionuclide Scintigraphy
2:30 pm	GI20	Toshiaki Kakimoto	Effect of Mosapride on Postprandial Gallbladder Motility and Plasma Levels of Motilin in Dogs
2:45 pm	GI21	M. Katherine Tolbert	Evaluation of the Presence and Role of Cysteine Protease 30 in Feline <i>T. foetus</i>

3:00 pm	GI22	Emily Gould	Evaluation of the Effect of Omeprazole on Serum Calcium, Magnesium, Gastrin and Bone in Cats
3:15 pm	GI23	Jillian Haines	Gravity-Assisted Esophageal Transit Characteristics in Dogs with Megaesophagus
3:30 pm	GI24	Jonathan Lidbury	Feasibility of Measuring Gastrointestinal Transit Time in Healthy Dogs Using ALICAM
3:45 pm	GI25	Jill Pomrantz	Comparison of Gastric Transit Time in Healthy Dogs and Dogs with Signs of Gastric Hypomotility
4:00 pm	GI26	Jill Pomrantz	Feasibility of a Novel Gastrointestinal Imaging Device for Use in Dogs

#### SMALL ANIMAL INTERNAL MEDICINE – HEPATOLOGY

8:00 am	HP01	Sara Wennogle	Fluorescence in Situ Hybridization Identifies Occult Bacterial Infection in Gallbladder Mucoceles ( <i>ACVIM Resident Research Award Eligible</i> )
8:15 am	HP02	Kathleen Aicher	Association of Gallbladder Mucocele Formation with Occult Hypothyroidism in Dogs: A Matched Case-Controlled Study ( <i>ACVIM Resident Research Award Eligible</i> )
8:30 am	HP03	Jonathan Lidbury	Interobserver Agreement for Histological Scoring of Canine Hepatic Fibrosis
8:45 am	HP04	Matthias Schneider	Embolization of Intrahepatic Portosystemic Shunts in Dogs with a Prototype Coil

#### SMALL ANIMAL INTERNAL MEDICINE – OTHER

8:00 am	OT01	Alison Khoo	Effect of Three Resuscitative Fluid Protocols on N-Terminal Prohormone Brain Natriuretic Peptide in Healthy Dogs ( <i>ACVIM Resident Research Award Eligible</i> )
8:15 am	OT02	Mira Korpivaara	Dexmedetomidine Oromucosal Gel for Alleviation of Acute Anxiety and Fear Associated with Noise in Dogs
8:30 am	OT03	Katherine Scotti	Prognostic Indicators in Cats with Septic Peritonitis: 55 Cases (2002–2015)
8:45 am	OT04	Franck Jolivet	Reliability of Thermometer Protective Sheaths for Measurement of Rectal Temperature in Dogs

**POSTER PRESENTATIONS****On Display:** Thursday, June 9, 9:30 am–5:00 pm

Friday, June 10, 9:30 am–5:00 pm

**Attended by ALL Authors**

Thursday, June 9, 9:50 am–10:30 am

Friday, June 10, 9:50 am–10:30 am

**Attended by ALL Authors – Wine & Cheese Reception:**

Thursday, June 9, 5:45 pm–7:30 pm

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#	Presenting Author	Abstract Title
<b>CARDIOLOGY</b>		
C22	SeungWoo Jung	Circulating Plasma Mirna As Novel Molecular Biomarkers in Congestive Heart Failure
C23	Randolph Winter	A Multicenter Evaluation of Signalment and Comorbid Conditions Associated with Aortic Thrombosis in 291 Dogs
C24	Marlos Goncalves Sousa	Right Ventricular Systolic Function in Dogs with Post-Capillary Pulmonary Hypertension
C25	Marlos Goncalves Sousa	Vasovagal Tonus Index in Dogs with Myxomatous Mitral Valve Disease
C26	Maria Helena Matiko Akao Larsson	Sick Sinus Syndrome and Sinus Node Dysfunction: Case Series Reports of FMVZ-USP Cardiology Service (2007-2015)
C27	Kensuke Nakamura	The Utility of Spectral Doppler of the Hepatic Veins in Dogs with Tricuspid Regurgitation
C28	Emily Menzen	Cutaneous Use of an Implantable Loop Recorder (Reveal LINQ™) for Cardiac Event Monitoring in Dogs
C29	Lilian Shen	Aortoseptal Angle and Response to Balloon Valvuloplasty in Dogs Affected with Severe Subaortic Stenosis
C30	Melissa Wilson	Evaluation of Pulmonary Hypertension in Cats with Cardiac Disease and Pleural Effusion Versus Pulmonary Edema
C31	Junseok Lee	Post-Operative Dysrhythmias After Cardiac Surgery Under Cardiopulmonary Bypass
<b>NEUROLOGY</b>		
N13	Jourdan Brune	Characterization of Iatrogenic Blood Contamination on Lactate Dehydrogenase and Creatine Kinase in Canine Cerebrospinal Fluid
N14	Lorenzo Mari	Outcome Comparison in Dogs with Thoracolumbar Acute Non-Compressive Nucleus Pulposus Extrusion or Fibrocartilaginous Embolic Myelopathy
N15	Katia Marioni-Henry	Morphology of the Caudal Fossa in Mesaticephalic and Brachycephalic Cats and Associated Clinical Signs
N16	Pablo Amengual	Diagnostic Investigation in 13 Cats with Suspected Feline Hyperesthesia Syndrome
N17	Hilary Hu	Cystometric Characterization of Urinary Bladder Dysfunction in Chronically Paralyzed Dogs ( <i>ACVIM Resident Research Award Eligible</i> )

- N18 Michele Provencher Evaluation of Kinematic Magnetic Resonance Imaging in Dogs with Osseous-Associated Cervical Spondylomyelopathy (*ACVIM Resident Research Award Eligible*)
- N19 Lisa Bartner *Bartonella* Spp. PCR Assay Results Using Cerebrospinal Fluid of Dogs with Central Nervous System Disease
- N20 Hilary Levitin Preictal, Postictal and Interictal Behavioral Changes in Dogs with Genetic Epilepsy Compared to Control Dogs

**ONCOLOGY**

- O12 Erika Berger Evaluation of Toceranib Phosphate (Palladia®) in the Treatment of Feline Mast Cell Neoplasia: 53 Cases
- O13 Valter de Medeiros Winkel Expression of P Glycoprotein (ABCB1) in Cats with T-Cell Lymphocytic Gastrointestinal Lymphoma
- O14 Tracy Gieger Early Experiences with Stereotactic Radiation Therapy for the Treatment of Canine Non-Lymphomatous Nasal Tumors
- O15 Tracy Gieger Treatment of Canine Appendicular Osteosarcoma with Amputation, Carboplatin, and Toceranib Phosphate
- O16 J. Paul Woods Safety Assessment of a Novel Oncolytic Maraba Virus in Cats
- O17 Daniel Regan Role of Monocyte Recruitment in Hemangiosarcoma Metastasis in Dogs (*VCS Award Winner*)
- O18 Nicholas Szigetvari Phase I Clinical Trial of the Targeted Chemotherapeutic Drug, Folate-Tubulysin, in Dogs with Urinary Tract Transitional Cell Carcinoma (*VCS Award Winner*)

**SMALL ANIMAL INTERNAL MEDICINE – ENDOCRINOLOGY**

- EN13 Ashley Gold Evaluation of Basal Cortisol Concentrations for the Diagnosis of Hypoadrenocorticism in Dogs (*ACVIM Resident Research Award Eligible*)
- EN14 Christina Marino Thyroid Profiles in Healthy Kittens Aged Two to Sixteen Weeks of Age (*ACVIM Resident Research Award Eligible*)
- EN15 Eileen Seage Spectrophotometry and Ultracentrifugation for Measurement of Plasma Lipids in Dogs with Diabetes Mellitus (*ACVIM Resident Research Award Eligible*)
- EN16 Hye-Ryung Choo Effect of Hydrocortisone Administration on Leptin and Adiponectin Synthesis in Healthy Dogs
- EN17 Jon Fletcher Using Purified Feline Insulin to Evaluate Cross-Reactivity with a Human Insulin Analog Elisa
- EN18 Maria Jericó Steroid Hormone Panel Test and Trilostane and Melatonin Therapy in Pomeranian Dogs with Alopecia X
- EN19 Mia Reeve-Johnson Metabolite Differences Between Senior Burmese and Non-Burmese Cats, and Associations with Measures of Glucose Metabolism
- EN20 Yaiza Forcada A Genome-wide Association Study Identifies Novel Candidate Genes for Susceptibility to Diabetes Mellitus in DSH Cats (*ESVE Award Winner*)

**SMALL ANIMAL INTERNAL MEDICINE – GASTROENTEROLOGY**

- GI27 Alison Manchester Correlation Between Novel Immunohistochemical Markers, Histopathology and Clinical Scores in Cats with Chronic Enteropathy (*ACVIM Resident Research Award Eligible*)

GI28	Amanda Blake	Fecal D-/L-Lactate Concentrations and Abundance of Lactic Acid Bacteria in Dogs with Exocrine Pancreatic Insufficiency
GI29	Gena Esposito	Evaluation of Serum Beta-Hydroxybutyrate Concentrations in Dogs with Chronic Enteropathies
GI30	Ellen Everson	Effect of Serum Creatinine on Feline Serum DGGR-Lipase and Serum Pancreatic Lipase Immunoreactivity
GI31	Roman Husnik	Prevalence of <i>Helicobacter</i> Species and Their Association with Gastric Pathology in Dogs with Gastrointestinal Disease
GI32	Jill Pomrantz	Normal and Abnormal Findings in the Canine Gastrointestinal Tract Using Ambulatory Light-Based Imaging
GI33	Joerg Steiner	Fecal $\alpha$ 1-Proteinase Inhibitor Concentrations in Dogs with Cardiac Disease
GI34	Rebecca Timmons	Evaluation of the Effects of Pre-Conditioning on Female Canine Adipose-Derived Mesenchymal Stem Cell Cytokine Production

#### SMALL ANIMAL INTERNAL MEDICINE – HEMATOLOGY

HM13	Ian McClure	Incidence of DEA 5 in Canine Population Using Novel Canine Antisera
HM14	Keitaro Morishita	Prospective Study in the Treatment of Nonregenerative Immune-Mediated Anemia in 8 Dogs
HM15	Hyeri Shin	Validation of Rapid Thromboelastographic Analysis on Citrated and Native Whole Blood From Healthy Dogs
HM16	Sarah Shropshire	Serial Evaluation of Thromboelastography and Platelet Aggregometry in Healthy Dogs

#### SMALL ANIMAL INTERNAL MEDICINE – HEPATOLOGY

HP05	Daniel Langlois	Investigation of Hepatic Copper Accumulation in Dogs From Two Time Periods (1982-1988 and 2009-2015)
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#### SMALL ANIMAL INTERNAL MEDICINE – INFECTIOUS DISEASE

ID14	Melissa Beall	Comparative Evaluation of Five In-Clinic Rapid Tests for Feline Leukemia Virus Infection
ID15	Ramaswamy Chandrashekar	Detection of Giardiasis in Dogs: Comparison of Three Rapid Diagnostic Tests
ID16	Jesse Buch	Seroprevalence of Antibodies to <i>Anaplasma phagocytophilum</i> and <i>Borrelia burgdorferi</i> in Domestic Cats
ID17	Jesse Buch	Validation of a High-Throughput Serological Elisa Method for FELV P27 Antigen Detection
ID18	Amber Caress	Investigation of Whether <i>Leptospira</i> Vaccinal Antibodies React with <i>Borrelia</i> Peptides Used in a Commercial Assay
ID19	Elena Contreras	Clinical and Laboratory Findings in Dogs with <i>Ixodes</i> -Induced Chronic <i>Anaplasma phagocytophilum</i> Infection After Prednisolone Administration
ID20	Michael Lappin	Serum Neutralization of Feline Caliciviruses Using Sera From Kittens Administered a Vaccine Containing Two Strains
ID21	Michael Lappin	Risk Factors Associated with Giardia and <i>Cryptosporidium</i> in Pet Dogs and Cats in the USA

ID22	Jiayou Liu	Significant Differences in Sensitivity Levels of Rapid Tests for Antibodies to <i>Anaplasma</i> Spp. in Dogs
ID23	Katie MacMillan	Prevalence of Select Infectious Disease Agents in Client Owned Cats in Moscow, Russia
ID24	Alison Manchester	<i>Coxiella burnetii</i> DNA Not Identified in Fleas From Domestic Cats in Australia and the USA
ID25	Kirk Miller	Risk of Heartworm Infection in Domestic Canines of Northwestern Oregon
ID26	Cody Minor	Ectoparasites and Vector-Borne Pathogens of Dogs in Baja California Sur
ID27	Jason Stull	Identifying Agreement and Barriers to Proposed Canine Infectious Disease Guidelines for Dog Group Settings
ID28	Julia Veir	Correlation of <i>Mycoplasma</i> Quantitative PCR to Severity of Conjunctivitis in Cats

#### SMALL ANIMAL INTERNAL MEDICINE – NUTRITION/METABOLISM

NM05	Aparecido Camacho	Determining the Lactate and Glucose Thresholds and the Acid-Base Imbalances in Beagles Dogs
NM06	Dennis Jewell	When Fed Foods with Similar Palatability, Cats Choose 30%, Dogs 23% of Calories As Protein
NM07	Jennifer MacLeay	A Double Masked Clinical Trial of a Therapeutic Food in the Management of Canine Atopy

#### SMALL ANIMAL INTERNAL MEDICINE – NEPHROLOGY/UROLOGY

NU13	Crystal Cooley	Survey of Subcutaneous Fluid Practices in Cats with Chronic Kidney Disease ( <i>ACVIM Resident Research Award Eligible</i> )
NU14	Ryan Dulaney	Quantifying Urine Elimination Behaviors in Cats Using a Video Recording System ( <i>ACVIM Resident Research Award Eligible</i> )
NU15	Alisdair Boag	Evaluation of the Effect of Urine Dip Versus Urine Drip on Multitest Strip Results
NU16	Jean Hall	Positive Impact of Nutritional Interventions in Client-Owned Dogs with Iris Stage-1 Chronic Kidney Disease
NU17	Marcia Kogika	Fibroblast Growth Factor 23 (FGF-23) in Dogs with Naturally Occurring Chronic Kidney Disease
NU18	Maciej Parys	Serum Cytokine Profiles of Cats with Idiopathic Cystitis
NU19	Camille Torres-Henderson	Cystolith Dissolution in Cats Using a Commercially Available Diet

#### SMALL ANIMAL INTERNAL MEDICINE – OTHER

OT05	Katrina Stewart	Isolation and Identification of MicroRNA From the Mature Feline Erythrocyte: A Pilot Study ( <i>ACVIM Resident Research Award Eligible</i> )
OT06	Laura McPhee	Effects of Sedation and Anesthesia on Canine Hematologic and Serum Biochemical Analyses During Preventive Healthcare
OT07	Igor Yankin	Does Fine Needle Aspiration Affect Management of Dogs with Incidental Splenic Nodules or Heterogeneous Parenchyma?

**SMALL ANIMAL INTERNAL MEDICINE – PHARMACOLOGY**

- P05 Darren Berger The Accuracy, Precision and Stability of Compounded Milbemycin Oxime in Aqueous Suspension
- P06 Andrea Herndon Pharmacokinetics of Intravenous and Subcutaneous Dolasetron and Pharmacodynamics of Subcutaneous Dolasetron in Purpose-Bred Cats
- P07 Lara Zajic Investigation of the Pharmacokinetics of Transdermal Ondansetron in Normal Purpose-Bred Cats

**EQUINE**

- E42 Harold Schott Basal Insulin Concentrations in Competition Draft Horses
- E43 Kamila Gravena Matrix Metalloproteinase-2 and -9 Levels in Horses with Experimental Small Colon Intraluminal Obstruction
- E44 Michael Keowen Effects of Collagen Hydrolysates on Equine Gastric Ulcer Scores and Gastric Juice Ph in Horses
- E45 James Prutton Safety, Humoral Immune Response and Fecal Shedding of Modified-Live Bovine Coronavirus Vaccines Given to Horses
- E46 Sarah Elzinga Do Horses with Equine Metabolic Syndrome Have Reduced Immune Responses to Vaccination?
- E47 Melissa Siard Immunological Comparisons of Aged Horses with Vs. without Pituitary Pars Intermedia Dysfunction
- E48 Marta Barba *Corynebacterium pseudotuberculosis* Antibody Detection in Horses: Synergistic Hemolysis Inhibition Test and Small Ruminant ELISA Comparison
- E49 Martha Mallicote Effects of Erythromycin on Responses Induced in Foals By Intravenous Epinephrine
- E50 Barbara Quorllo Equine Vector-Borne Diseases Determined By Serological and Molecular Methods
- E51 Andrew Allen Selenium Deficiency Associated with the Deaths of Fifteen Adult Horses
- E52 Frank Garza, Jr. Effects of Alfa-Lox Forage® on Blood Glucose and Insulin Activity After Grain Feeding in Horses
- E53 Breanna Sheahan Venous Blood Gas, Electrolyte and Metabolite Findings in Healthy Neonatal Foals Receiving Sodium Lactate Infusions (*ACVIM Resident Research Award Eligible*)
- E54 Randolph Winter Growth and Function of Equine Endothelial Progenitor Cells Labeled with Semiconductor Quantum Dots

respectively. The PPVs of the *B. gibsoni* kit at 5%, 15%, and 30% prevalence were 82%, 94%, and 97% respectively. The NPVs of the *B. gibsoni* kit were 99%, 98%, and 96% respectively. The PPVs of the *Babesiosis* kit were 70%, 89%, and 96% respectively. The NPVs of the *Babesiosis* kit were 99%, 98%, and 95% respectively.

The POCKIT® iPCR system was quick to learn, portable, and had a short run time of approximately 1 hour. There were few false-positive results, indicating that positive results are likely to represent true infections when tested in high-risk animals. Approximately 10–15% of infected dogs would be missed by the POCKIT® iPCR system. However, the portability and speed with which results can be obtained may result in more infected dogs being diagnosed than in the current situation in which testing is rarely performed in dog-fighting cases due to cost and logistics of sending samples to outside laboratories. This system may also be used for *B. gibsoni* treatment monitoring using a hybrid approach. For example, following initial diagnosis with either the POCKIT® system or a commercial laboratory, the POCKIT® system could be used for testing during treatment. Once a negative result was obtained, a sample could be submitted to a commercial laboratory to confirm treatment efficacy. Although this study focused on mass screening for *B. gibsoni*, the portable iPCR platform has potential to aid in rapid detection of a variety of infections under field conditions.

#### ID03

**PREVENTION OF BORRELIA BURGDORFERI AND ANAPLASMA PHAGOCYTOPHILUM TRANSMISSION FROM IXODES SCAPULARIS TO DOGS BY SAROLANER.** Nicole Honsberger, Robert Six, Thomas Heinz, Angela Weber, Sean Mahabir, Thomas Berg, Zoetis, Kalamazoo, MI, USA

The efficacy of sarolaner (Simparica™, Zoetis) to prevent transmission of *Borrelia burgdorferi* and *Anaplasma phagocytophilum* from infected wild-caught *Ixodes scapularis* to dogs was evaluated in a well-controlled laboratory study. Twenty-four purpose-bred laboratory Beagle dogs seronegative for *B. burgdorferi* and *A. phagocytophilum* antibody were allocated randomly to one of three oral treatment groups: placebo administered on Days 0 and 7, sarolaner administered on Day 0 (28 days prior to tick infestation), or sarolaner administered on Day 7 (21 days prior to tick infestation). Sarolaner tablets were shaved and/or sanded based on each dog's individual bodyweight to provide a dosage of 2 mg/kg. On Day 28 each dog was infested with approximately 25 female and 25 male wild caught adult *I. scapularis* that were determined by random sampling to have infection rates of 57% for *B. burgdorferi* and 6.7% for *A. phagocytophilum* by PCR. *In situ* tick counts were conducted on Days 29 and 30. On Day 33, all ticks were counted and removed. Blood samples collected from each dog on Days 27, 49, 63, 77, 91 and 104 were tested for the presence of *B. burgdorferi* and *A. phagocytophilum* antibodies using the SNAP® 4Dx® Plus Test, and quantitatively assayed for *B. burgdorferi* antibodies using an ELISA test. Skin biopsies collected on Day 104 were tested for the presence of *B. burgdorferi* by bacterial culture and PCR. Acaricidal efficacy was calculated based on the reduction of geometric mean live tick counts in the sarolaner-treated groups compared to the placebo-treated group for each tick count.

Geometric mean live tick counts for placebo-treated dogs were 14.8, 12.8 and 19.1 on Days 29, 30 and 33, respectively. For the group treated with sarolaner 21 days prior to infestation, the percent reductions in mean live tick counts on Days 29, 30, and 33 were 86.3%, 100%, and 100%, and for the group treated with sarolaner 28 days prior to infestation were 90.9%, 97.1%, and 100%. Geometric mean live tick counts for both sarolaner-treated groups were significantly lower than those for the placebo group on all count days ( $P < 0.0001$ ).

Successful transmission of *B. burgdorferi* to all eight placebo-treated dogs was confirmed by positive antibody (6 of 8 dogs), PCR (7 of 8 dogs), and/or culture result (7 of 8 dogs). Similarly, transmission of *A. phagocytophilum* was confirmed by the presence of antibodies in four placebo-treated dogs. In contrast, a single oral dose of sarolaner prevented transmission of *B. burgdorferi* from infected ticks to dogs infested 21 or 28 days after treatment as demonstrated by negative antibody, PCR, and culture results. Prevention of *A. phagocytophilum* transmission was also

demonstrated by negative antibody in all sarolaner-treated dogs. There were no adverse reactions to treatment with sarolaner.

#### ID04

**MOLECULAR ANALYSIS ON CANINE BABESIA PREVALENCES AND EXPOSURE TO ANAPLASMA, EHRLICHIA, BORRELIA AND DIROFILARIA IN MOST POPULATED SERBIAN REGION – BELGRADE AREA.** Milica Kovacevic Filipovic<sup>1</sup>, Anja Ilic<sup>1</sup>, Zorana Milanovic<sup>1</sup>, Dragan Bogdanovic<sup>2</sup>, Vladimir Radonjic<sup>3</sup>, Jelena Francuski Andric<sup>1</sup>, Nenad Andric<sup>1</sup>, Brendon Thatcher<sup>4</sup>, Christian Leutenegger<sup>4</sup>, Phyllis Tyrrell<sup>4</sup>, Antony Mestek<sup>4</sup>, Chandrashekar Ramaswamy<sup>4</sup>. <sup>1</sup>Faculty of Veterinary Medicine, University of Belgrade, Belgrade, Serbia, <sup>2</sup>State University of Novi Pazar, Novi Pazar, Serbia, <sup>3</sup>Private Veterinary Practice Petrovac, Belgrade, Serbia, <sup>4</sup>IDEXX Laboratories, Westbrook, Maine, USA

Babesiosis is endemic in many parts of Serbia. Other tick borne diseases are less commonly diagnosed because their clinical signs are nonspecific and there is no published data indicating their prevalence. The aim of this study was to determine molecular prevalence of *Babesia canis canis* and *B. gibsoni*, molecular and seroprevalence of *Anaplasma phagocytophilum*, *A. platys*, *Ehrlichia canis*, *E. ewingii*, *E. chaffeensis* and *Borrelia burgdorferi* and *Dirofilaria sp. microfilariae* in different outdoor canine populations.

Blood samples from apparently healthy stray (n = 38), shelter (n = 39) and hunting dogs (n = 35) and outdoor pet dogs suspected to have tick borne diseases (n = 50) were tested using real time PCR and serological assays. Real-Time PCR assays were used to amplify *Babesia*, *Anaplasma* and *Ehrlichia* DNA from blood samples. An experimental SNAP® Multi-Analyte Assay (SNAP® M-A) (IDEXX Laboratories, Inc. Westbrook, Maine, USA) was used to screen all sera for antibodies to *Anaplasma* and *Ehrlichia* genus peptides and *A. phagocytophilum*, *A. platys*, *B. burgdorferi*, *E. canis*, *E. ewingii*, and *E. chaffeensis* species-specific peptides. Modified Knott test was used to identify dogs with *Dirofilaria sp. microfilaria* presence.

In total, prevalence of *Babesia sp.* infections among apparently healthy dogs was 16% and among sick pet dogs, was 65%. Prevalence of *B. canis* was the highest in shelter (25%) and the lowest in stray dogs (8%). *B. gibsoni* was rare among shelter, stray and pet dogs, while it was not detected among hunting dogs. Molecular analysis did not reveal the presence of dogs with active anaplasmosis, ehrlichiosis or borreliosis. However, 32% of stray and shelter dogs, 12% of hunting dogs and 4% of sick pet dogs had antibodies to *A. phagocytophilum*. Only one dog (hunting group) was seropositive to *A. platys*, one dog to *E. ewingii* (stray group) and two dogs to *B. burgdorferi* (stray group). None of the dogs was seropositive to *E. canis* and *E. chaffeensis*. Also, 33% of pet, 18% of hunting, 11% of stray and 3% of shelter dogs had microfilariae in the blood. Number of dogs exposed to two and three pathogens was the highest among shelter dogs (31% and 10%, respectively), and number of dogs exposed to four pathogens was the highest among stray dogs (5%).

In Belgrade area, *B. canis* and *A. phagocytophilum* are the most prevalent vector-borne pathogens in apparently healthy outdoor dog population, while *B. canis* and *Dirofilaria sp.* are the most important pathogens among sick pet dogs.

#### ID05

**ENHANCED SEROLOGIC SURVEILLANCE TO DETECT PREVALENCE OF CANINE VECTOR-BORNE INFECTIONS ON THE ISLAND OF ST. KITTS, WEST INDIES.** Diana Scorpio<sup>1</sup>, Jennifer Ketzis<sup>1</sup>, Linda Shell<sup>1</sup>, Brendon Thatcher<sup>2</sup>, Ramaswamy Chandrashekar<sup>2</sup>. <sup>1</sup>Ross University School of Veterinary Medicine, Basseterre, Saint Kitts and Nevis, <sup>2</sup>Idexx Laboratories, Westbrook, Maine, USA

The island of St. Kitts (West Indies) has a large feral and semi-feral dog population. Semi-feral dogs present a unique opportunity for study since they are mostly outdoors but are comparatively well