

College of Veterinary Medicine 2015 Research in Review

CVM Office of Research and Graduate Studies

Dr. Patrick Green, Associate Dean for Research and Graduate Studies; Professor
Ms. Michele Morscher, Assistant Director of Veterinary Research and Graduate Studies
Dr. Kate Hayes-Ozello, Grants and Contracts Administrator
Dr. Jean Schelhorn, Director of Commercialization and Industry Collaborations
Ms. Kathy Froilan, Graduate Program Coordinator

Selected Notable Faculty Accomplishments Awards and Recognition

Michael P. Malone National Leadership Award: Dr. Wondwossen Gebreyes, Professor of Veterinary Preventive Medicine and Director of Global Health Programs received this recognition for his work in establishing research and training programs on molecular epidemiology of foodborne pathogens for eastern Africa, including Ethiopia, Kenya, and Tanzania. Dr. Gebreyes also shepherded “One Health Ethiopia,” an initiative aimed at connecting researchers, clinicians, and students from all corners of the globe to address major emerging health threats in the East Africa region. He also developed online coursework that has educated more than 7,000 students in 90 countries. The Malone Award, a national honor sponsored by The Association of Public and Land-grant Universities (APLU) and awarded annually, recognizes individuals who further international education at public universities.

Society of Toxicologic Pathology (STP) Outstanding Mentor Award: Dr. Thomas Rosol, Professor in the Department of Veterinary Biosciences and Senior Advisor for Life Sciences to the Office of Technology and Commercialization, was the recipient of the STP 2015 Outstanding Mentor Award. The Outstanding Mentor Award is given to a member in good standing who has played a significant role in the training of toxicologic pathologists. Dr. Rosol has been instrumental in the training of numerous toxicologic pathologists over the past three decades. The award recognizes individuals who have mentored pathologists as part of formal training programs, as well as individuals who have consistently provided informal coaching or instruction.

Zoetis Research Award: Dr. Chen Gilor, Assistant Professor in Veterinary Clinical Sciences received the Zoetis Research Award for his work investigating novel therapies related to feline and canine diabetes mellitus. Dr. Gilor’s research has been funded by ACVIM Foundation, Merck Animal Health, Morris Animal Foundation, and Ethos Advisory Group. The award is presented to a faculty member for his/her innovative research, on which the scientific advancement of the profession depends, recognizing outstanding research effort and productivity.

Charles Capen Teaching Excellence Award for Graduate Education: Dr. Li Wu, Professor in Veterinary Biosciences. The Capen Award serves to honor faculty members who excel in their roles as advisors and mentors for post-doctoral fellows, Master of Science, and Doctor of Philosophy candidates. To date, Dr. Wu has trained eight post-doctoral fellows and graduated five MS/PhD students that have gone on to distinguished careers in academia, government, or industry. He currently has four post-doctoral fellows and two PhD candidates in his laboratory.

Canine Cancer, Clinical Trials featured at TEDx: Dr. Cheryl London, Professor in the Department of Veterinary Biosciences, Director of the Clinical Trials Office (CTO) at the Veterinary Medical Center, and Director of Translational Therapeutics at the Center for Clinical and Translational Science spoke about canine cancer as part of “The Human Narrative” on February 14, 2015 at the Wexner Center for the Arts’ Mershon Auditorium for TEDxOhioStateUniversity, an independent TED event. Dr. London, one of 12 invited speakers, explained how the efforts of researchers in the study of cancer in dogs has led to translational applications in human cancer. She gave examples from the CTO where novel drug therapies are being developed for the treatment of specific tumors. Everyone wins when dogs are part of clinical cancer trials, Dr. London told the

audience. “Our pets get access to state-of-the art cutting-edge therapy for little to no cost and humans get access to critical information that can impact their outcome.”

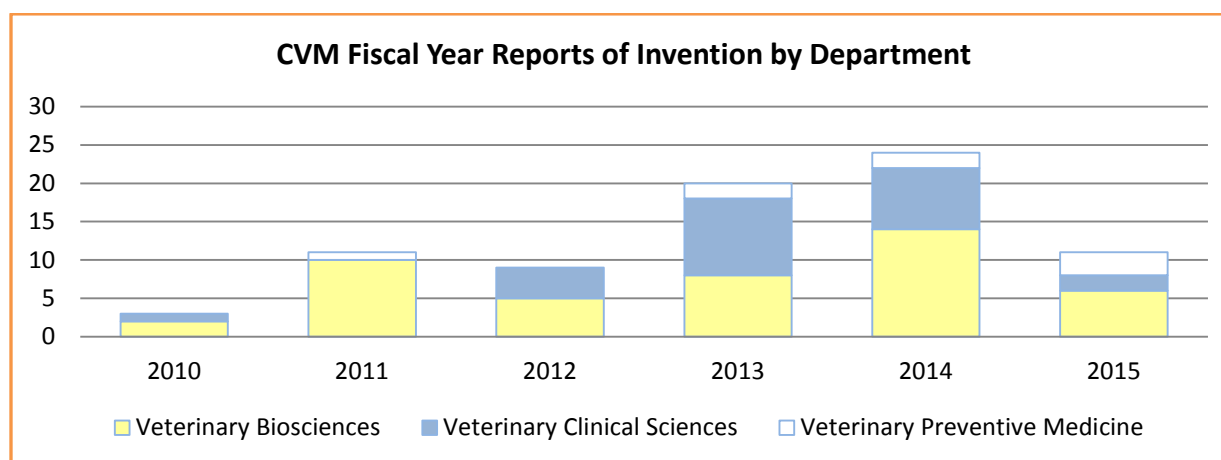
Commercialization

Translation of CVM discoveries, expertise, intellectual property, and other assets occurs through license and permission agreements to commercial companies. At the end of FY15, CVM had 12 active licenses in fields of diagnostics, articles, educational images and videos, therapeutics, and vaccines. The current CVM licenses are split equally between VBS (6) and VCS (6). Commercialization revenue flows from the license agreements to OSU. In the past 20 years, CVM revenues surpassed \$900K seven times, and surpassed \$1M three times. FY15 marked the second highest revenue to CVM spanning all years surpassing \$1M. CVM continues as the leading revenue-producing college at OSU. Per OSU policy, roughly 20% of the revenue received is distributed to the college; an additional 20% flows to the department(s) of the inventor/creators. Only the VBS agreements have surpassed the OSU revenue threshold required for college and department distribution (\$75K); thus, all of the FY15 revenue distributed to our college and department currently stems from VBS license agreements.

The College began tracking participation of our faculty in 2010. Participation includes the full range of activities that link to all stages of industry collaborations (initial discussions, CDAs, MTAs, or research agreements with commercial concerns) and commercialization (initial discussion of insights/discoveries through commercial translation events: licenses, contracts, etc.). Targets for faculty participation were established in 2010. As shown below, in FY15 we exceeded the 5-year 2015 faculty participation targets set in 2010 for the overall college and for all departments.

Original Participation Targets					Actual Participation				
fiscal yr	VCS	VBS	VPM	CVM	fiscal yr	VCS	VBS	VPM	CVM
2010					2010	13.8%	38.9%	10.7%	20.2%
2011	15.0%	35.0%	25.0%	0.0%	2011	18.8%	37.1%	17.9%	23.6%
2012					2012	30.2%	44.1%	18.5%	31.5%
2013					2013	29.6%	51.6%	22.6%	33.1%
2014					2014	38.8%	51.6%	40.7%	42.4%
2015	25.0%	50.0%	33.0%	33.9%	2015	33.3%	62.1%	34.5%	40.2%

Research within our college drives the development of new insights and discoveries. Output from research and clinical understanding drives our invention reports/disclosures. As seen in the following chart, we increased reports from 2011 - 2014. Our goal at this time is to sustain submissions at double-digit levels.



The commercialization section in the CVM 2015 Annual Report is reported as fiscal year (FY) information. All commercialization databases and information for OSU are based on the OSU fiscal year (July 1 – June 30). To ensure alignment with other OSU reports the FY format for this commercialization section is presented.

The Comparative and Veterinary Medicine Graduate Program

The numbers of PhD and MS students in the College's graduate program has remained steady for the past 3 years. In 2015, 15 PhD, and 24 MS students successfully completed their degree requirements.

Graduate Student Demographics (as of January 2016)

PhD Students		MS Students	
Department of Advisor		Department of Advisor	
Biosciences	18	Biosciences	2
Clinical Sciences	2	Clinical Sciences	37
Preventive Medicine	17	Preventive Medicine	9
College of Medicine	5	College of Medicine	1
College of Pharmacy	2		
	<u>43</u>		<u>49</u>

Selected Notable Student Accomplishments

2015 Graduates

Spring Semester Doctorates:

Fernanda Abreu - Co-Advisors: Marco Coutinho da Silva and Michael Day	Valeria Artuso Ponte - Advisor: Wondwossen Gebreyes
Basavaraj Binjawadagi - Advisor: Renukaradhya Gourapura	Erin Dicaprio - Advisor: Jianrong Li
Joelle Fenger – Co-Advisors: Cheryl London and William Kisseberth	Jagadish Hiremath - Advisor: Renukaradhya Gourapura
Joany Van Balen Rubio – Co-Advisors: Armando Hoet and Thomas Wittum	

Spring Semester Masters:

Nola Bliss - Advisor: Andrew Bowman	*Megan Brown - Advisor: Cheryl London
*Francisco Clemente Vicario – Co-Advisors: Gwendolen Lorch and William Kisseberth	*Kristen Datte - Advisor: Edward Cooper
*Sarah Depenbrock - Advisor: Katharine Simpson	*Bronwyn Fullagar - Advisor: Chen Gilor
*Alison Gardner - Advisor: James Belknap	*Melanie Hnot - Advisor: Lynette Cole
Matthew Hogan - Advisor: Valerie Bergdall	Alissa Hunter - Advisor: Gustavo Schuenemann
*Rachel Liepman - Advisor: Ramiro Toribio	Kelvin Lim - Advisor: Wondwossen Gebreyes
*Kimberly Mulligan - Advisor: William Drost	*Lisa Rose - Advisor: William Drost
*Adam Rudinsky - Advisor: Chen Gilor	*Rachel Song - Advisor: Sarah Moore
*Audrey Wanstrath - Advisor: Alicia Bertone	*Meagan Williams - Advisor: Eric Green

Summer Semester Doctorates: None

Summer Semester Masters:

Adrian Barragan - Advisor: Gustavo Schuenemann	Santosh Dhakal - Advisor: Renukaradhya Gourapura
Kathryn Mccullough - Advisor: Paivi Rajala-Schultz	Duan-liang Shyu - Advisor: Renukaradhya Gourapura
James White – Advisor: Thomas Wittum	

Autumn Semester Doctorates:

Elbashir Araud - Advisor: Jianrong Li	Paige Gott - Advisor: Gustavo Schuenemann
Hayam Ahmed Galal Hamzah Hussein - Advisor: Alicia Bertone	Anand Kumar - Advisor: Gireesh Rajashekara
Zhongyan Lu - Advisor: Linda Saif	Maria Menendez - Advisor: Michael Knopp
Lulu Shao - Advisor: Linda Saif	Feifei Wang - Advisor: Li Wu

Autumn Semester Masters:

*Judith Bertran – Advisor: Alan Litsky	
--	--

*denotes VCS Clinical Resident

2015 Research Day

Advances in Veterinary Medicine Day showcases the research and scholarship accomplishments of veterinary students, residents, graduate students, and faculty in the college and brings the college community together to learn about exciting research being carried out by colleagues. The annual event was held April 12, 2015. Dr. Jeff Lakritz served as the Chair for the 2015 Research Day and Ms. Michele Morscher organized and ran the event. Dr. Patricia Conrad, Professor and Associate Dean for Global Affairs, UC Davis School of Veterinary Medicine and Co-Director of the One Health Center of Expertise: Water, Animals, Food and Society in the UC Global Health Institute, presented the keynote address “Otters, Toxoplasma Oocysts, Oceans and One Health: What’s the Connection?” In addition, platform presentations of their research were given by Dr. Kasia Dembek (Graduate Student), Dr. Laura Pomeroy (Post-doc), and Dr. Mingqun Lin (Research Scientist). There were 87 posters presented in the areas of Structure-Function, Infectious Diseases-Immunology, Clinical Research, Epidemiology and Applied Research, Education, and Molecular and Cellular Biology. Travel awards were given to the top poster in each area.

Research Day Travel Award Winners

Platform Presentations:

Graduate Student Presentation: Kasia Dembek – Advisor: Ramiro Toribio

Post Doc Presentation: Laura Pomeroy – Advisor: Rebecca Garabed

Research Scientist Presentation: Mingqun Lin – Advisor: Yasuko Rikihisa

Graduate Student Posters:

Clinical Research: Sarah Depenbrock – Advisor: Katie Simpson

Immunology & Infectious Diseases: Tara Martin – Advisor: Prosper Boyaka

Molecular & Cellular Biology: Lauren Himmel – Advisor: Ching-Shih Chen

Structure/Function: Katheryn Dern – Advisor: Jim Belknap

Epidemiology & Applied Research: Kelvin Lim – Advisor: Wondwossen Gebreyes

Veterinary Student Posters:

Basic Research: Elizabeth Helffrich, VME 2 – Advisor: Matthew Allen

Clinical Research: Lindsey Johnson, VME 2 – Advisor: Ramiro Toribio

Epidemiology & Applied Research: Kasey Godden – Advisor: Greg Habing

2015 Summer Veterinary Student Research Program

The College continues its tradition of a strong Summer Research Program, which provides 3-month research training experiences for first- and second-year veterinary students. In 2015, 27 of the 37 applications submitted for the 2015 Veterinary Scholars Summer Research Program were funded. Funds for stipends were provided through an NIH T35 Training grant, Morris Animal Foundation, Merial, AVMA/AVMF, Faculty, Alumni, and College endowment funds. Students were kept busy not only working on their projects in the lab, but also attending a 1-day workshop entitled, “Ethics in Biomedical Research”, and biweekly brown bag seminars with topics ranging from “alternative career paths” and “the life of a graduate student”, to scientific presentations and scientific writing. A field trip was taken to [The Wilds](#) – a private, non-profit conservation center located on nearly 10,000 acres of reclaimed mine land in rural southeastern Ohio. Sixteen students, along with Drs. Oglesbee, Green, and Fenger, and Michele Morscher attended the Merial NIH National Veterinary Scholars Symposium hosted by UC Davis. The summer ended with each of the students giving a power point presentation of their research project and experience, to sponsors and members of the College community.

2015 SRP Participants and their Advisors	
Josie Arbogast – Ronaldo da Costa (VCS)	Katherine Bachman – Yasuko Rikihisa (VBS)
Katherine Backus – Barb Wolfe (VPM)	Kristen Bartholomew – Sarah Moore
Paulyne Bellen – Tom Wittum (VPM)	Dylan Burroughs – Wendy Lorch (VCS)
Rachael Camiener – Tom Rosol (VBS)	Lauren Diangelo – Katy Proudfoot and William Saville (VPM)
Alexander Diedrich – Gustavo Leone (MVIMG)	Michelle Forman – Susan Barrett (VCS)
Christina Hammons – Andy Bowman (VPM)	Keirsten Harris – Greg Habing (VPM)
Olivia Hegedus – Jim Belknap (VCS)	Elizabeth Helffrich – Ronaldo da Costa (VCS)
Daniela Korec – Tom Wittum (VPM)	Mary Rose Lawrence – Meghan Herron (VCS)
Yullee Lin – Tom Cherpes (MII/OG)	Sarah Linn – Stefan Niewiesk (VBS)
Marisa Maglaty – Gustavo Leone (MVIMG)	Hanna Manning – Katy Proudfoot (VPM)
Kanyon McLean – Rebecca Garabed (VPM)	Jillian Minuto – Ramiro Toribio (VCS)
Andrew Muir – Sarah Moore (VCS)	Leon Schermerhorn – Ian Davis (VBS)
Devin Sinnott – Rebecca Garabed and Antoinette Marsh (VPM)	Sarah Waibel – Wondwossen Gebreyes (VPM)
Sarah Young – Ian Davis (VBS)	

2015 Gertrude Hoeger Biomedical Research Awards for Veterinary Students

The award is given in recognition of veterinary medicine students who have demonstrated enthusiasm and excellence in research.

Basic Biomedical Research: Katherine Bachman – Advisor: Dr. Yasuko Rikihisa

Clinical Biomedical Research: Derek Howell – Advisor: Dr. Marco da Silva

Clinical Trials Office

The Clinical Trials Office (CTO) is a developing Shared Resource (Veterinary Clinical Research Shared Resource) of the OSU Comprehensive Cancer Center and part of the Comparative Animal Core (CAC), which is a Shared Resource supported by the Center for Clinical and Translational Studies. The office provides guidance with respect to clinical trial design including formulation of a testable hypothesis, determination of patient entry criteria, selection of appropriate toxicity assessments, review of appropriate statistical endpoints, and development of accurate budgets. The office also confirms compliance with applicable hospital, IRB, and/or IACUC requirements. Case recruitment is enhanced by an established network of regional specialists, veterinarians, and breed clubs to assist with patient enrollment. The CTO provides education in GCP, GLP, and the requirements of individual organizations sponsoring trials, and oversees and verifies correct and complete data entry and compliance with established study guidelines. The CTO supervises an average of 40-50 clinical trials each year, of which 25% are typically multi-center in nature. These studies enroll over 600-800 client-owned animals into a variety of protocols that involved pharmacokinetic sampling, tissue collection for pharmacodynamic endpoints, and adverse event assessments.

Thirty-eight clinical trials were active at the start of 2015 and another 15 were initiated throughout the year. Importantly, the number of non-cancer based studies has increased with >50% now being undertaken in non-oncologic disease entities. Examples include “A Randomized, Placebo Controlled, Proof of Concept Study of the Efficacy of LY3150053 and LY3300514 in the Treatment of Canine Osteoarthritis Pain,” “Diagnosing and Managing Neuropathic Pain in Dogs with Spinal Cord Injury.” The osteoarthritis study is particularly relevant as it is part of a multi-center clinical trial sponsored by Eli Lilly to evaluate two novel therapeutic agents in the setting of spontaneous disease in dogs. The results of this study will have direct impact on future human clinical trials with these compounds. The CAC has instituted REDCap for clinical trials management and has initiated the first studies using this system.

Outreach regarding the role of veterinary clinical trials in translational research was enhanced significantly in 2015. Dr. London spoke at the “One Health: Integrating the Veterinarian Scientist into the Biomedical Research Enterprise” workshop held at the NIH that included over 150 participants from industry, academia, and

government entities, including the FDA. The goal of this workshop was to enhance translational efforts in the setting of spontaneous disease and to promote training and incorporation of veterinary clinician scientists into the workforce. Dr. London also spoke at the IOM National Cancer Policy Forum Workshop “The Role of Clinical Studies for Pets with Naturally Occurring Tumors in Translational Cancer Research”. Importantly, a manuscript has been published as a Focus piece in *Science Translational Medicine* highlighting gap analysis generated by this IOM meeting. To enhance recruitment of animals for translational studies, the CCTS sponsored the production of a short video to explain the process associated with translational clinical trials in client owned animals and highlight the value of these data (<https://vet.osu.edu/vmc/cto>).

The Biospecimen Repository (BR), housed in the Veterinary Medical Center (VMC), is responsible for collecting normal tissues/samples and affected tissues/samples from client owned animals presented to the VMC. The specimens provide researchers within the OSU and Nationwide Children’s Hospital (NCH) a source material for the interrogation of disease processes and the development of new therapies that will impact both animals and humans. Samples collected by the BR include fresh, frozen, and formalin-fixed normal tissues (skin, muscle, etc.), fresh, frozen, and formalin-fixed diseased tissue (tumors, etc.), serum, plasma, PBMCs, and urine. Investigators can arrange for the Repository to collect specific samples prospectively on an “as needed” basis, or to fulfill the requirements of a specific research project. The BR is also part of the developing Shared Resource (Veterinary Clinical Research Shared Resource) of the OSU Comprehensive Cancer Center as well as the CAC supported by the Center for Clinical and Translational Studies. The BR has become more actively engaged in providing tissues for collaborative studies across OSU and NCH, as well as industry partners including Eli Lilly. Samples have been dispensed to 22 investigators, compared to nine investigators in the previous year.

Grant Support Office

Grant Support Office (Dr. Kate Hayes-Ozello) facilitated submission of 73 grants and contracts (budgets, editing, scientific review, proposal digests, organized Cayuse or other submission); processed 133 PA005s, submitted seven national reports (federal agencies and professional organizations), and six award nomination packages. The office provided editorial services for seven manuscripts. The GSO managed 95 active projects with \$9M in expenditures, performed budget projections; directed HR action to initiate and terminate personnel appointments to project; followed up on invoicing, eCerts, ProjEnd, and overrun reports, and resolved issues. Monthly publication of Funding News includes funding opportunities of interest as well as agency updates and grant-related resources. Dr. Hayes-Ozello organized the now annual RCR workshop held May 20, 2015. In addition, she served on and/or provided support to the Veterinary Admissions Committee, VCS Research Committee, VBS Research Priority 3 Taskforce, Signature Program Committee, Institutional Data Committee, Phi Zeta manuscript review committee, Global One Health Task Force, Gut Microbiome group, Medicine and the Arts Roundtable, and Research Day.

Research Funding (January 2015 – December 2015)

Select Major Grant Awards:

- **College faculty in collaborative research project with Nationwide Children’s Hospital received a 5-year, \$6.75M Program Project Grant to develop RSV vaccine.** Drs. Stefan Niewiesk, Jianrong Li, and Krista La Perle, faculty members in the Department of Veterinary Biosciences are working with researchers from the Center for Vaccines and Immunity at Nationwide Children's Hospital (Drs. Mark Peebles, Octavio Ramilo, and Asuncion Mejias), to develop a vaccine for respiratory syncytial virus (RSV). RSV is one of the most common causes of lower respiratory tract infections in human infants, with an annual 3.4 million cases leading to hospitalization in children under 5-yrs old, according to a study published in the *National Library of Medicine*. The team's end goal is to create an effective RSV vaccine that can be given as nose drops to infants. This will be achieved by weakening the virus while increasing its ability to stimulate a protective immune response. Contributions from the College of Veterinary Medicine highlight the multidisciplinary nature of the research team, with expertise in fundamental virology, model systems to evaluate antiviral immune responses, and comparative pathology being essential to success. A successful outcome means the vaccine will save the lives of infants and children worldwide, preventing over 57,000 hospitalizations and over 2 million medical visits

for infants and children each year. Tackling the challenge of human RSV may also directly benefit the veterinary and agricultural community, given the role of bovine RSV in respiratory disease of cattle.

- **National Institutes of Health grant awarded to Dr. Li Wu and Colleagues to study the mechanisms of HIV-1 latency.** Dr. Wu, Professor in the Department of Veterinary Biosciences and member of the Center for Retrovirus Research has received a 3-year \$600,000 grant from the National Institutes of Health. HIV and TB infections are the world's most fatal infectious diseases, according to the World Health Organization. Around the globe, nearly 37 million people currently are living with HIV; in 2014, 1.2 million people died from AIDS-related illnesses. About 5,500 people contract HIV infection each day, but HIV basic research holds promise in eradicating this devastating disease. The NIH grant will allow Dr. Wu and his team, which includes collaborators in China, to gather new information on the cellular and viral processes that underlie HIV's complex routes of transmission and replication. They will specifically focus on identifying currently unknown mechanisms that control HIV latency, which researchers have deemed "the most challenging question in HIV research." This study will facilitate the development of more effective strategies to combat HIV.

- **National Institute of Diabetes and Digestive and Kidney Diseases grant awarded to Dr. Prosper Boyaka to study the regulation of mucosal IgA and allergic inflammation by intestinal epithelial cells.** Dr. Boyaka, Professor in the Department of Veterinary Biosciences has received a 5-year \$1.74M grant from the National Institutes of Health. Epithelial cells lining mucosal surfaces represent the first barrier of the host against exogenous products and pathogens. Intestinal epithelial cells (IEC) have been extensively studied for their role in the digestion and selective absorption of ingested food molecules. IEC produce cytokines that influence the differentiation of classical antigen presenting and other innate cells and subsequently, shape adaptive immune responses. These cells also express the receptor for polymeric immunoglobulins, which allows the transport of polymeric IgA across the epithelium and their secretion as secretory IgA antibodies in the lumen. However, the role of IEC in allergic responses remains poorly understood and it is unclear how specific signaling pathways in IEC affect allergic sensitization in the GI tract and influence allergic responses at distant mucosal sites such as the airways. Dr. Boyaka and colleagues will address the overall hypothesis that selected innate signaling pathway in IEC shape allergen-specific antibody isotype responses and promote IgA antibodies, which can prevent the development, or reduce the magnitude of allergic inflammation at distant sites. They propose to use genetically modified mice and pharmaceutical inhibitors of the selected innate signaling pathway to address how canonical and non-canonical NF κ B signaling in intestinal epithelial cells regulate adaptive immune response during allergic sensitization and to establish mechanisms of protection against allergic inflammation by IgA and IgA+ B cells.

- **National Institute of Allergy and Infectious Diseases grant awarded to Dr. Yasuko Rikihisa to study infectious entry mechanisms of and of an obligatory intracellular pathogen.** Dr. Rikihisa, Professor in the Department of Veterinary Biosciences has received a 5-year \$1.93M grant from the National Institutes of Health to study infectious entry mechanisms of *Ehrlichia chaffeensis* (*Ech*). Human monocytic ehrlichiosis is an emerging tick-borne zoonosis caused by *Ech*, an obligatory intracellular bacterium. The essential virulence factor of *Ech* is its entry into human monocytes through the route permissive for its replication. To advance the basic understanding and permit development of new therapies, the long-term goal of the Rikihisa lab is to elucidate the mechanisms that mediate *Ech* infectious entry. Studies reveal that *Ech* uses EtpE (Entry triggering protein of *Ehrlichia*), a unique surface-exposed outer membrane protein to engage the human cell surface glycosylphosphatidyl-inositol-anchored protein DNase X, which induces its entry into host cells to establish prolific infection. How EtpE binding to DNase X triggers infectious *Ech* entry is unknown. Dr. Rikihisa has novel preliminary data indicating that CD147, hnRNP-K, and N-WASP interact with the EtpE-DNase X complex. They hypothesize that EtpE-DNase X binding anchors and activates N-WASP via CD147 and hnRNP-K to elicit spatio-temporal actin polymerization that drives *Ech* entry. This proposal aims to understand how EtpE binding to DNase X drives infectious *Ech* entry. If their exciting hypothesis is proven, EtpE would be the first bacterial molecule described to activate N-WASP through a unique protein complex for infectious entry. The identified pathways will provide a platform for developing new prophylactic and therapeutic strategies against *Ech*.

• **National Institute of Health Research Scientist Development Grant (K01) awarded to Dr. Joelle Fenger to dissect the role of microRNA-9 in normal and malignant mast cell biology.** Dr. Fenger, Assistant Professor in the Department of Veterinary Clinical Sciences has received a 5-year \$654,000 Career Development Award (Mentor: Dr. Cheryl London). Mast cells are key effector cells in a wide variety of physiological and pathological processes, including innate immune responses and allergic disorders, chronic inflammatory diseases such as cardiovascular disease and arthritis, and tumor progression. Activated mast cells secrete a diverse array of factors that mediate their roles in inflammation, immunity, and tissue remodeling. MicroRNAs (miRNAs) are small non-coding RNAs that regulate gene expression and their dysregulation is implicated in numerous pathologic conditions. Dr. Fenger has found that miR-9 over-expression was associated with aggressive, metastatic canine mast cell tumors, a well-established model of spontaneous malignant mast cell disease and forced high expression of miR-9 in normal and malignant mouse mast cells promoted invasion and enhanced the expression of CMA1, a mast cell-specific protease involved in tissue remodeling. Studies funded by this grant will ultimately result in a more complete understanding of the molecular mechanisms through which miR-9 regulates mast cell behavior both *in vitro* and *in vivo*, particularly as it relates to induction of the metastatic phenotype.

• **Michelson Foundation grant awarded to Drs. Marco A. Coutinho da Silva and John Lannutti to study electrospun delivery to enhance the effectiveness of anti-fertility strategies.** Dr. Coutinho da Silva, Associate Professor Clinical in the Department of Veterinary Clinical Sciences with his colleague Dr. John Lannutti (College of Engineering & Materials Science) have received a 4-year \$426,000 grant from the Found Animal Foundation. Electrospun nanofibers strongly mimic the extracellular matrix in which cells normally reside. The ability of the structure to carry a drug ‘payload’ and the ease of biochemical ‘tuning’ provide distinct advantages in avoiding the foreign body response to enable controlled drug delivery. The goal of Dr. da Silva’s work is to develop an electrospun nanofiber delivery technology enabling long-term, controlled delivery of a GnRH agonist (and potentially other synthetic or biological compounds) to the subcutaneous or intramuscular environment resulting in prolonged suppression of reproduction in companion animals (periods longer than 5 years). The results from this study are likely to significantly benefit population control of stray animals in the US and abroad.

New Grant Awards and Contracts Received by CVM Principal Investigators

January 1, 2015 – December 31, 2015

CVM PI	Team	Sponsor	Title	Award*	Dates
Boyaka, P. (VBS)	Cormet-Boyaka, E. (Co-PI)	NIH-NIDDK	Regulation of mucosal IgA and allergic inflammation by intestinal epithelial cells	\$1,741,477	07/15-04-20
Cormet-Boyaka, E. (VBS)	Amer, A. (Co-PI)	NIH-NHLBI	The role of microRNA-calibrated autophagy in innate immunity and inflammation	\$1,529,758	07/15-06/19
Davis, Ia. (VBS)		American Heart	Modulation of influenza pathogenesis by alterations in anion channel function	\$154,000	07/15 – 06/17
Davis, I. (VBS)		Cystic Fibrosis Fdn.	Mechanisms underlying influenza-induced CF exacerbations	\$54,000	04/15-03/16
Krakovka, S. (VBS)	Li, J. (VBS) Moeller, S. (Food Sci.)	Hennessy Res. Assoc.	Evaluation of porcine epidemic diarrhea vaccine: killed virus efficacy in sows	\$51,544	06/15-09/15
London, C. (VBS/VCS)		Animal Clinical Invest.	An exploratory study evaluating the safety and efficacy of RV1001, an isoform selective PI3K inhibitor, in dogs with T or B cell lymphoma	\$100,000	10/15-10/17
London, C. (VBS/VCS)		Eli Lilly	Ex-vivo study to evaluate activity of LSN3213128 in canine lymphoma samples	\$58,988	05/15-05/17
Niewiesk, S. (VBS)		NIH sub from Weill Cornell	Engineering protease-resistant A/B foldamer peptides for broad-spectrum	\$847,000	02/15-01/20

		Med. Coll.	antivirals		
Rikihisa, Y. (VBS)	Kural C. (Physics)	NIH-NIAID	Infectious entry mechanisms of obligatory intracellular pathogen	\$1,925,000	11/15-10/20
Wu, L. (VBS)		NIH-NCI	HIV-1 Nef interactions with Nef-associated factor 1 contribute to viral latency	\$600,000	08/15-07/18
Belknap, J. (VCS)		USDA-NIFA	Insulin-related growth factor signaling is responsible for lamellar failure in equine metabolic syndrome	\$454,989	05/15-05/18
Bertone, A. (VCS)		Arthro Dynamic Tech.	Effect of polyglycan treatment on lipopolysaccharide-challenged synovial cells in vitro	\$39,427	02/15-02/16
Byron, J. (VCS)	Daniels, J. (VCS)	Silver Lake Res. Corp.	Evaluation of the RapidBac Vet Test in cats	\$22,261	10/15-10/16
Coutinho da Silva, M. (Co-PI)	Lannutti, J. (Materials Sci. Engineering) (PI)	Found Animals Fdn.	Electrospun delivery to enhance the effectiveness of anti-fertility strategies	\$409,327	01/15-12/18
Da Costa, R.		Gray Lady Fdn.	Finite element modeling of the cervical spine of Doberman Pinscher and Great Dane dogs	\$22,056	05/15-04/16
Dyce, J. (VCS)	Aarnes, T. (VCS), Lakritz, J. (VCS), Lerche, P. (VCS)	Am. College of Veterinary Surgeons	Pharmacokinetics and pharmacodynamics of oral Tapentadol for the treatment of pain in dogs with clinical osteoarthritis	\$10,000	04/15-04/16
Dyce, J. (VCS)		AlcheraBio	A randomized, placebo controlled, proof of concept study of the efficacy of LY3150053 and LY3300514 in the treatment of canine osteoarthritis pain	\$79,870	08/15-08/16
Fenger, J. (VCS)		NIH-OD	Dissecting the role of miR-9 in normal and malignant mast cell biology	\$510,389	02/15-12/19
Gilor, C. (VCS)		Kindred Biosciences	Colony support and lease agreement	\$73,984	09/15-08/17
Gilor, C. (VCS)		Intervet/Schering-Plough	Determination of certain biomarkers such as glucagon, GLP-1, GIP, and insulin in the plasma samples collected from healthy cats administered with different doses of a glucagon receptor antagonist, MK-3577, for six months for Merck Animal Health.	\$19,852	11/15-02/16
Gemensky-Metzler, A. (VCS) Co-PI	Chandler, H. (Optometry) (PI)	OH Animal Health Fdn.	Objective evaluation of the systemic effects of topically applied 1% atropine in the horse	\$10,000	04/15-12/15
Guiot, L. (VCS)	Guillou, R. (VCS)	Sub from Univ. of Cambridge - VOS	Motion capture analysis of stifle joint kinematics following total knee replacement in dogs	\$60,816	07/15-09/16
Kisseberth, W. (VCS)	Byrd, J. (Hematology), Johnson, A. (Hematology), London, C. (VCS)	Morris Animal Fdn.	Targeting the B-cell receptor signaling pathway in canine lymphoma	\$125,803	01/15-12/16
Kisseberth, W. (VCS)		Morris Animal Fdn.	A contemporaneous controlled study of the standard of care (SOC) in dogs with appendicular osteosarcoma	\$510,440	12/15-11/17
Lorch, G. (VCS)		ALK-Abello A/S	Evaluation of allergenic extract intradermal threshold concentration variation in non-allergic dogs	\$32,062	10/15-12/16
Moore, S.	Da Costa, R.	Gray Lady	Diagnosing and managing neuropathic	\$21,498	05/15-

(VCS)	(VCS)	Fdn.	pain in dogs with spinal cord injury		04/16
Scansen, B. (VCS)		Am. College of Vet. Internal Med.	Right ventricular systolic function in dogs with myxomatous mitral valve disease	\$8,469	01/15-01/17
Toribio, R. (VCS)		Grayson-Jockey Club	Steroid / neurosteroid dynamics in critically ill newborn foals	\$101,518	04/15-03/17
Toribio, R. (VCS)		Morris Animal Fdn.	High dose ACTH stimulation test to assess adrenocortical function in critically ill foals	\$5,000	05/15-08/15
Bas, S. (VPM)		OH Dairy Producers Assn.	Effect of metritis on physiological and behavioral responses in lactating dairy cows	\$5,770	01/15-06/16
Bowman, A. (VPM)	Scheer, S. (ACEL) Whittington, M.	OH Dept. of Health	Scenario based training of youth exhibitors to mitigate influenza A virus transmission at agricultural fairs	\$20,000	04/15-12/15
Da Costa, L. (VPM)		OH Dairy Producers Assn.	Assessment of maternal welfare conditions in colostrum quality, neonatal health and survival	\$4,880	02/15-01/16
Gebreyes, W. (VPM)	Bisesi, M. (CPH) Gorgas, D. (Emerg. Med.) Menon, U. (CON) Ramnath, R. (Comp. Sci&Eng.) Schopis, P. (AORnet) Xiao, N. (Geog.)	NIH-FIC	Bridging the gap in e-capacity for global health research and training in eastern Africa	\$323,631	05/15-04/18
Gebreyes, W. (VPM)	Bisesi (CPH) Carey, C. (OIA) Hoet, A. (VPM) King, L. (Vet. Adm.) LeJeune (FAHRP) Wang, SH. (Inf. Dis.)	Inst. Of Internat. Ed.	Strengthening global one health research and training capacity: Applying cutting-edge genomic technologies to prevent the global emergence of antimicrobial resistance at the animal-human-environment interface.	\$199,972	04/15-04/17
Habing, G. (VPM)		APHIS	Distribution, diversity, and antimicrobial resistance of Salmonella subtypes recovered from hatchling shipment boxes	\$44,321	02/15-02/16
Habing, G. (VPM)	Wittum, T. (VPM)	APHIS	Antimicrobial use and resistance in food animals: Interpreting data from national animal health monitoring system (NAHMS) studies	\$100,000	09/15-09/16
Hoet, A. (VPM)		World Org. for Animal Health	OIE veterinary education twinning project	\$246,682	06/15-05/18
O'Quin, J. (VPM)		Univ. FL	Impact of heat treatment on regional prevalence of <i>Dirofilaria immitis</i> antigen detection in shelter dogs	\$5,000	05/15-05/16
Proudfoot, K. (VPM)		USDA-NIFA	Living up to her potential: Increasing dairy cow productivity and welfare using an improved understanding of sleep	\$100,000	09/15-08/16

CVM Research Expenditures January 1, 2015 – December 31, 2015

Research expenditures as a metric are used to track actual research activity; monies expended result in the distribution of the associated Facilities and Administrative (F&A) monies to the College. Below is a table showing CY2015 research expenditures from extramurally awarded grants and contracts, and F&A recovery. Five-year trends are shown in subsequent graphs and tables. The current federally negotiated F&A rate is 54%; lower F&A rates result from awards from agencies that provide little to no F&A (common with Foundations and NIH training grants) and clinical trials (uses a 26% F&A rate).

Department	Total Expenditures (MTDC)	F&A Recovery*(\$)
Veterinary Medicine Administration	\$ 94,946 (\$ 56,808)	66.5% (\$ 37,754)
Veterinary Biosciences	\$5,457,935 (\$3,262,504)	46.6% (\$1,520,407)
Veterinary Clinical Sciences	\$1,359,261 (\$1,125,295)	18.7% (\$ 210,348)
Veterinary Preventive Medicine	\$2,097,210 (\$1,508,975)	34.5% (\$ 520,402)
Totals	\$9,009,352 (\$5,953,582)	38.4% (\$2,288,911)

*Modified Total Direct base used for calculation of F&A recovery (e.g., excludes equipment and tuition); our current federal rate is 54%.

Summary of CVM Research: By the Numbers

Below are data showing various aspects of the CVM research enterprise as 3-to-5-year trends to be informative. Data were compiled from the eActivity (<http://osp.osu.edu/resources/etools/>) databases.

In a snapshot:

College of Veterinary Medicine					
Year	# of Proposals Submitted	# of Funded Projects (Active Projects)	Total Awards (New and Continuing)	Total Expenditures	F&A Recovered
2011	166	77	\$ 8,093,672	\$8,177,966	\$1,884,805
2012	140	83	\$ 8,397,300	\$7,974,811	\$1,815,256
2013	149	96	\$ 9,167,215	\$8,797,024	\$2,203,997
2014	178	114	\$ 8,343,499	\$8,814,948	\$2,322,552
2015	143	95	\$ 8,734,527	\$9,009,352	\$2,288,911

College of Veterinary Medicine VPM - FAHRP					
Year	# of Proposals Submitted	# of Funded Projects (Active Projects)	Total Awards (New and Continuing)	Total Expenditures	F&A Recovered
2011	40	38	\$1,809,245	\$1,962,535	\$447,748
2012	13	42	\$3,905,800	\$2,185,535	\$491,399
2013	32	34	\$4,386,334	\$2,847,589	\$566,858
2014	41	40	\$2,838,084	\$2,953,507	\$696,475
2015	28	36	\$2,876,566	\$3,000,001	\$686,389

FAHRP investigators with VPM as TIU: LeJeune, Lee, Rajashekara, Gourapura, Saif L, Saif M, Jackwood, Wang (2013)

Positive trends: Numbers of active projects in the College no longer include projects funded by Residual Funds (administration of Residual Funds was turned over to internal College financial administration in May 2015); therefore, the number of active projects is likely greater than presented here. Total expenditures were the highest in this 5-year period and the F&A recovery was very close to last year's value (2nd highest), mainly due to the awarding of several 5-year NIH grants.

Trends to monitor: There were 20% fewer grant proposals submitted from the College in 2015; size and duration of awards are smaller. Investigators have had more success with the R21 NIH grants and there has been a distinct shift (as noted in data presented below) away from federal funds to funding from foundations and industry (which are generally smaller, shorter-term awards).

Intramural Research Grants and Funds Dispersed in 2015

Barber Funds dispensed = \$118,810

Canine Funds = \$141,479

College Match to various Grants and Projects = \$28,000

Personnel Support from Extramural Grants and Contracts 2015

The table below shows the amount of salary, off-duty pay, and stipend support that comes directly from grants and contracts to contribute to off-duty salary for 9-month faculty, employ research personnel, and provide stipends for graduate students in the College. **\$2,393,178**

Dept.	Faculty	Staff	GRAs and Students
VCS	\$ 56,954	\$ 154,842	\$ 12,331
VBS	\$ 270,654	\$ 985,129	\$ 332,565
VPM	\$ 88,717	\$ 354,935	\$ 237,051
Total	\$ 416,325	\$1,494,906	\$ 481,947

Faculty: Off-duty and direct pay; Staff: salary support; Students and Grad Associates: stipend/salary and benefits support

2015 Top Research Programs Based on Extramural Grant Expenditures and Indirect Cost Recovery

Data are according to expenditures because they represent actual activity on a grant. eActivity captures and apportions expenditures based on the stated F&A allocation to CVM.

	As PI		As Co-I*		Totals
	direct	indirect	direct	indirect	
Bowman, Andrew	\$664,829	\$316,635			\$981,464
Li, Jianrong	\$577,849	\$192,681	\$46,429	\$13,029	\$829,988
Green, Patrick	\$580,079	\$231,036			\$811,115
Wu, Li	\$403,333	\$212,413	\$40,148	\$19,271	\$675,165
Niewiesk, Stefan	\$381,153	\$193,933			\$575,086
London, Cheryl	\$405,184	\$89,217			\$494,401
Rikihisa, Yasuko	\$320,038	\$166,506			\$486,544
Rosol, Thomas	\$213,250	\$57,789	\$52,491	\$27,555	\$351,085
Davis, Ian	\$214,845	\$97,367			\$312,212
Garabed, Rebecca	\$222,109	\$30,400	\$3,652	\$1,248	\$257,409

PI portal search: query-expenditures-investigator-CVM

Calendar year (1/1/15-12/31/15)

Current as of 1/29/2016

*CVM allocated \$s expended by faculty as Co-I (PIs outside CVM)

Faculty Salary & Benefits Recovery (Release time) from Extramural Sources in 2015

Faculty salary and benefits recovery (historically referred to as release time) comes back to the College and by policy in 2015 has been split with 60% going to the investigator for reserve and reinvestment funds and 35% and 5% going to Department and College, respectively, for reinvestment.

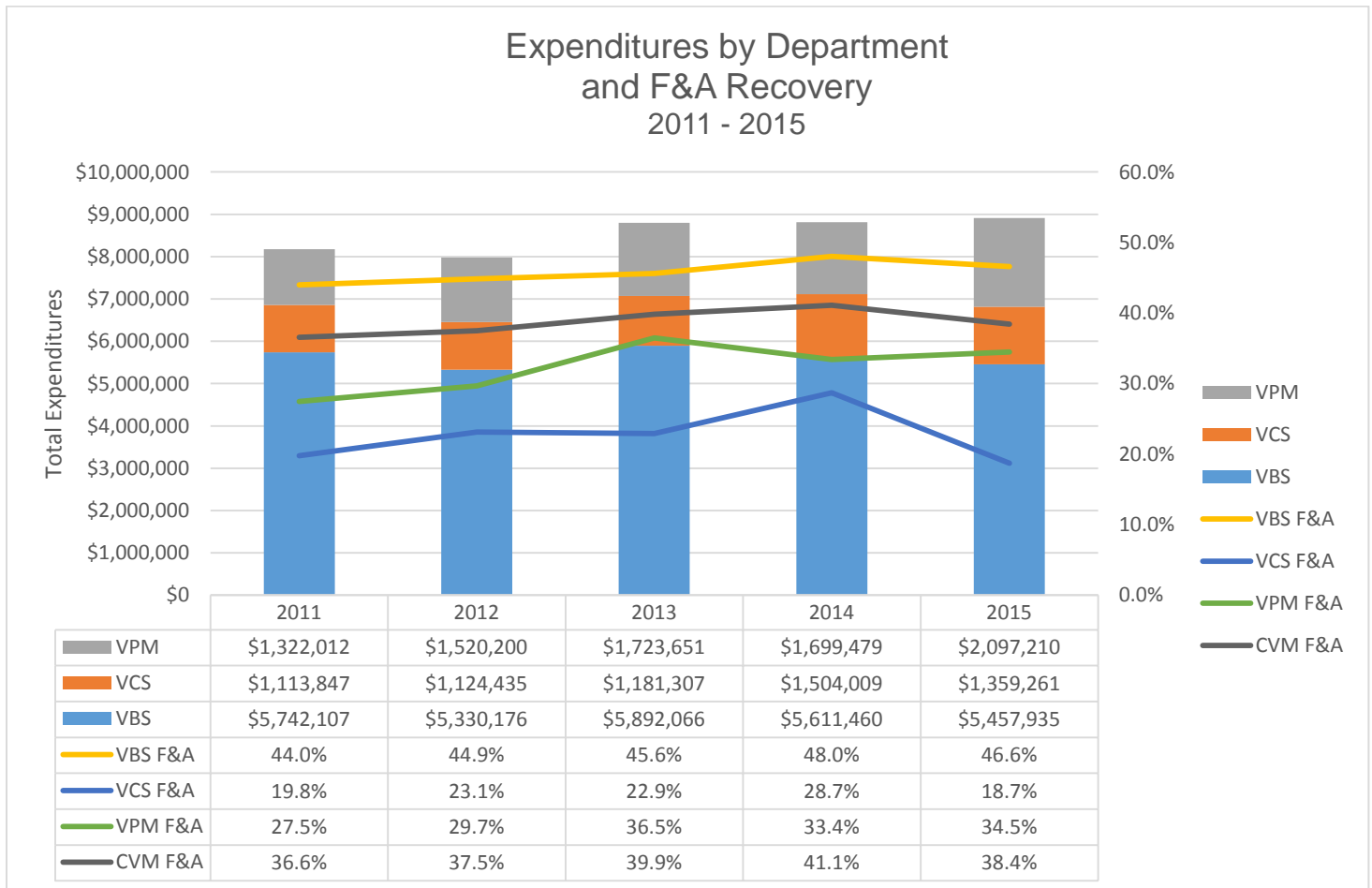
By Department

Name	Total \$s Recovered
VBS	\$415,087
VPM	\$179,698
VCS	\$137,906

By Investigator

Name	Total \$s Recovered	Name	Total \$s Recovered
Green, Patrick	\$102,337	Davis, Ian	\$12,034
Bowman, Andrew	\$93,585	El Gazzar, Mo	\$10,537
Fenger, Joelle	\$73,280	Lorch, Gwendolen	\$8,527
London, Cheryl	\$52,970	Gilor, Gilor	\$7,176
Niewiesk, Stefan	\$52,720	Toribio, Ramiro	\$5,324
Wu, Li	\$43,423	Gebreyes, Wondwossen	\$5,148
Bolon, Brad	\$39,611	Daniels, Josh	\$4,762
Wittum, Thomas	\$37,015	Rosol, Thomas	\$4,724
Rikihisa, Yasuko	\$27,635	Dyce, Jon	\$4,074
La Perle, Krista	\$25,524	Brokken, Matthew	\$2,994
Li, Jianrong	\$20,261	Bergdall, Valerie	\$1,651
da Silva, Marco	\$19,524	Stull, Jason	\$1,612
Cormet-Boyaka, Estelle	\$17,605	Drost, Tod	\$1,339
Boyaka, Prosper	\$15,272	Byron, Julie	\$1,089
Wolfe, Barbara	\$15,209	Oglesbee, Michael	\$971
Schuenemann, Gustavo	\$14,655	Lakritz, Jeff	\$636
Belknap, James	\$12,879	Proudfoot, Kathryn	\$286

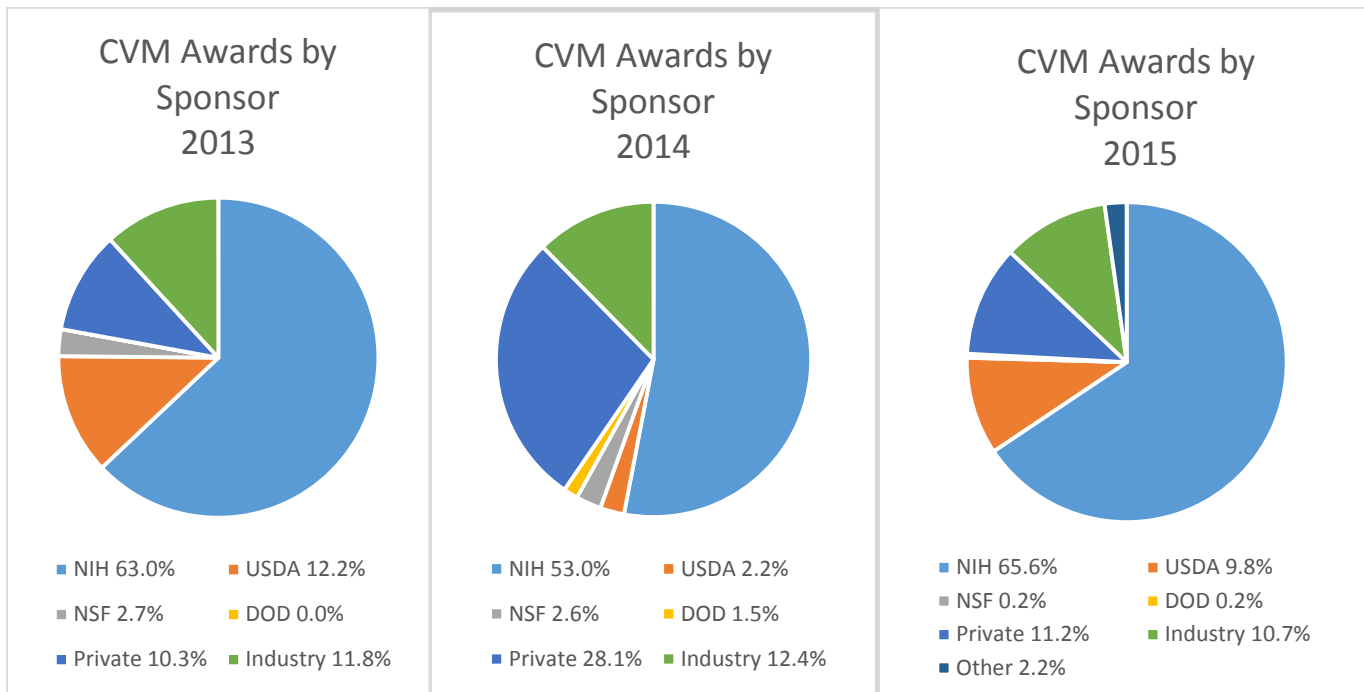
Expenditures – 5-Yr Trends



Summary: While overall grant expenditures for 2015 was the highest of the past 5 years, the breakdown by department revealed small declines in expenditures by VBS and VCS that were balanced by an increase in VPM. Over this 5-year period, average CVM expenditures were \$8,554,820 with a variation between 5.3% and 6.7% from this mean in any year. This finding suggests that the current trends will continue unless more substantive changes in strategy are realized (increased collaborative activity, better infrastructure to support large grant proposals, hiring additional research-intensive faculty, etc.).

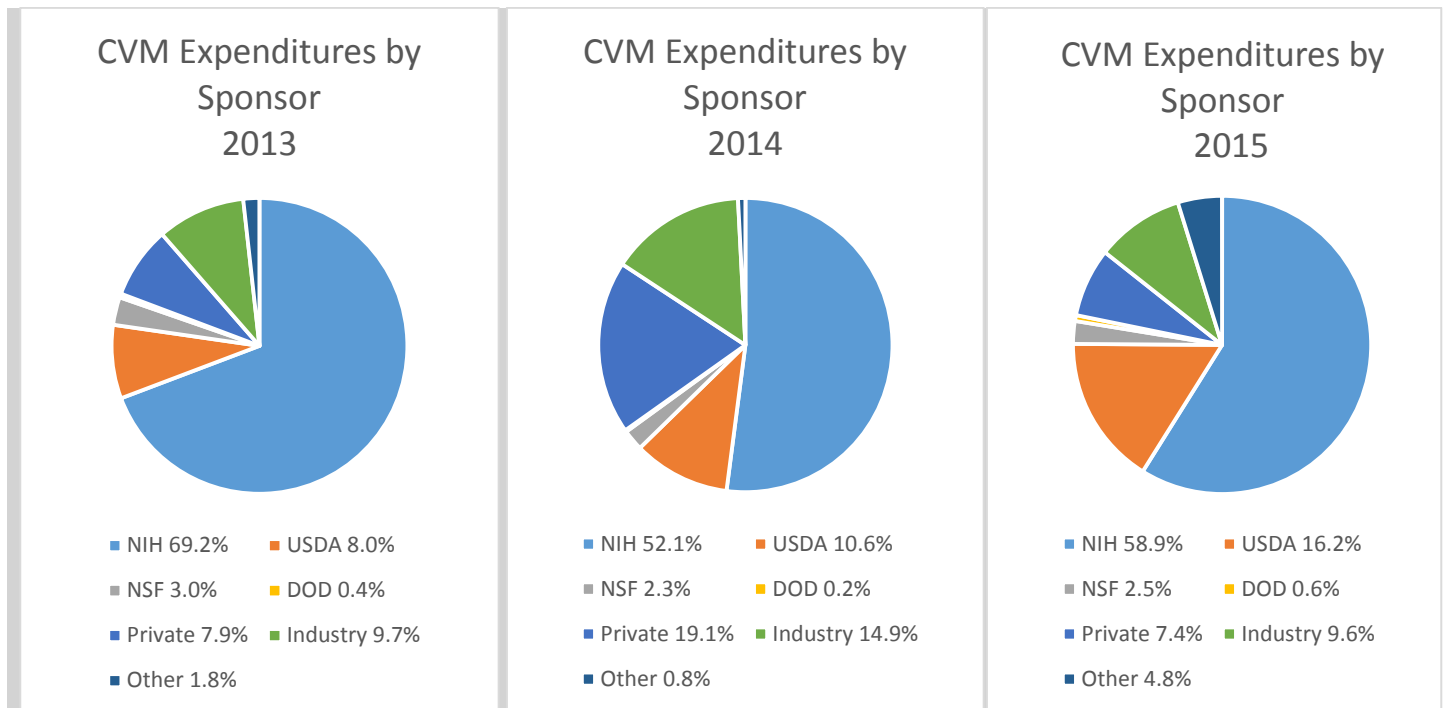
The following graphs break out extramural awards and expenditures according to Sponsor.

CVM Awards by Sponsor 2013 – 2015 (3-Yr trend)



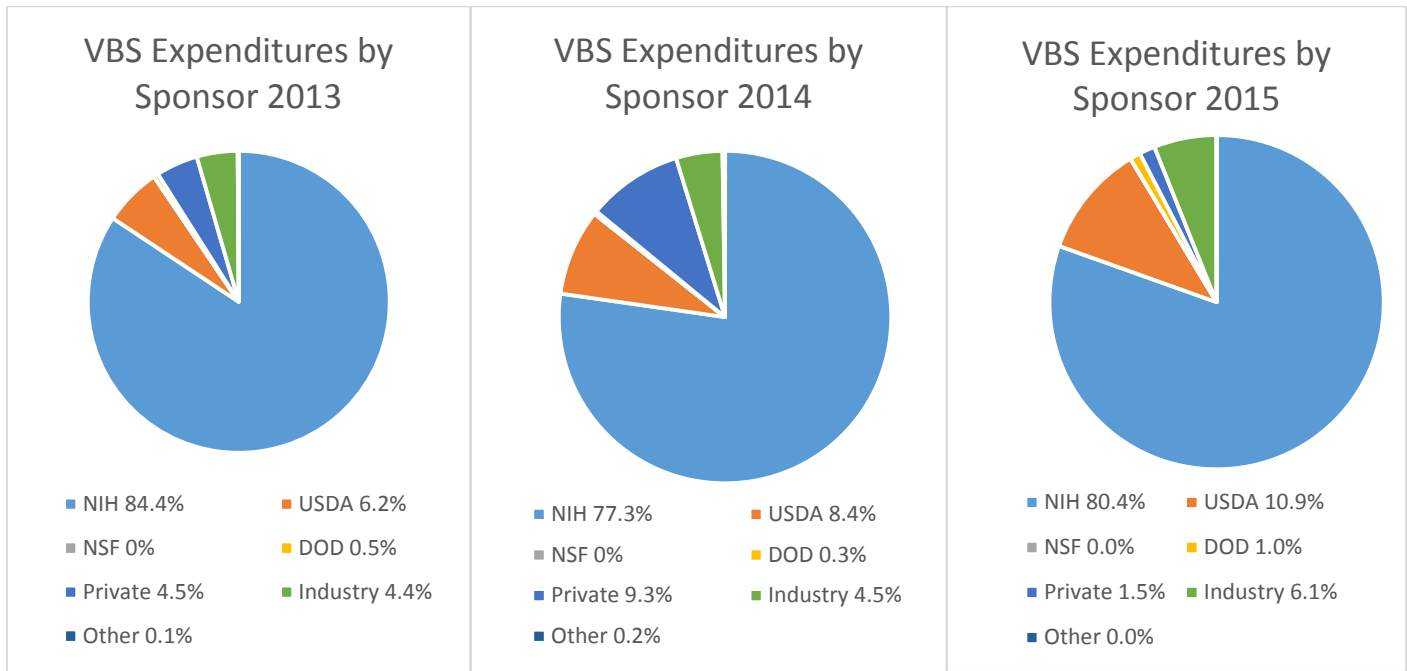
The National Institutes of Health is still the largest funder of CVM research programs (65.6%): This past year, several investigators were awarded NIH R01 grants (5-yrs, \$1M+).

CVM Expenditures by Sponsor 2013 – 2015 (3-Yr trend)

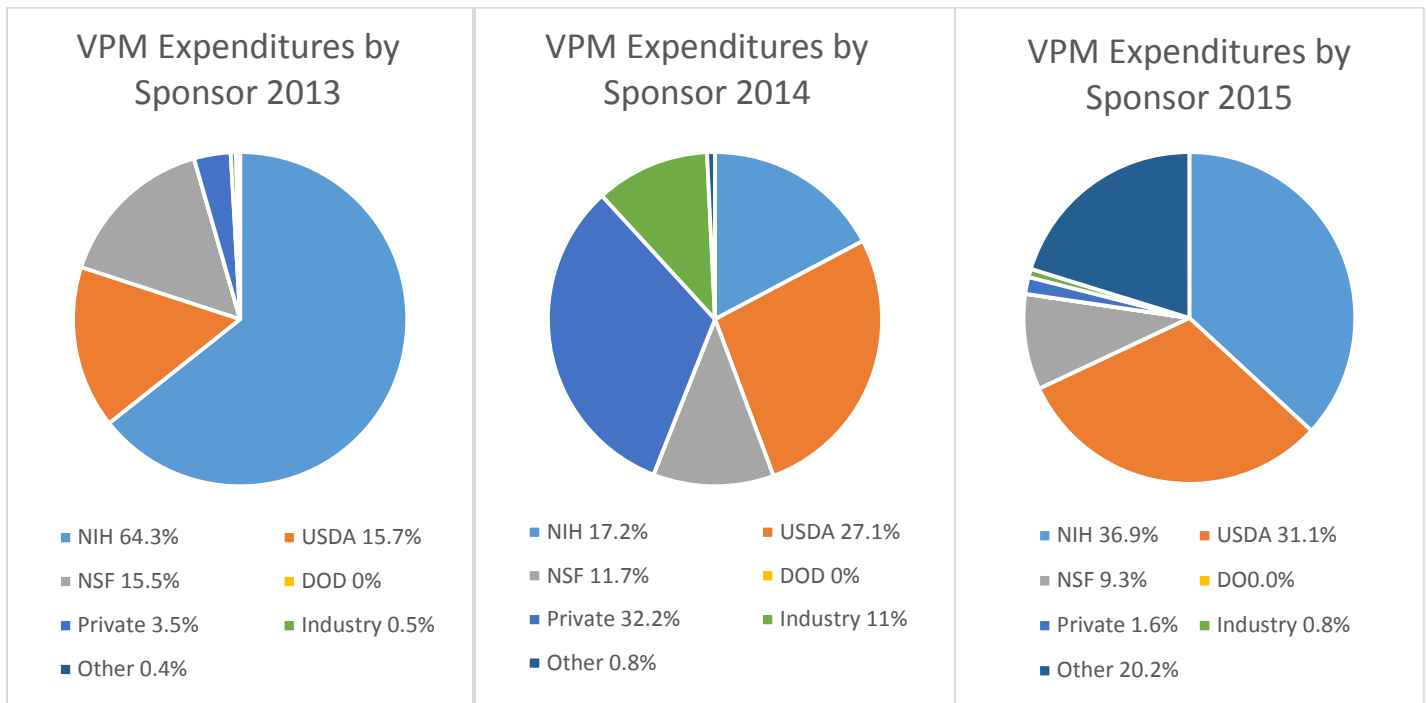


As a whole, the diversity in awards and expenditures reflect the breadth of research areas clustered within departments. Expenditures from Federal Sponsors are between $\frac{2}{3}$ and $\frac{3}{4}$ of total college expenditures.

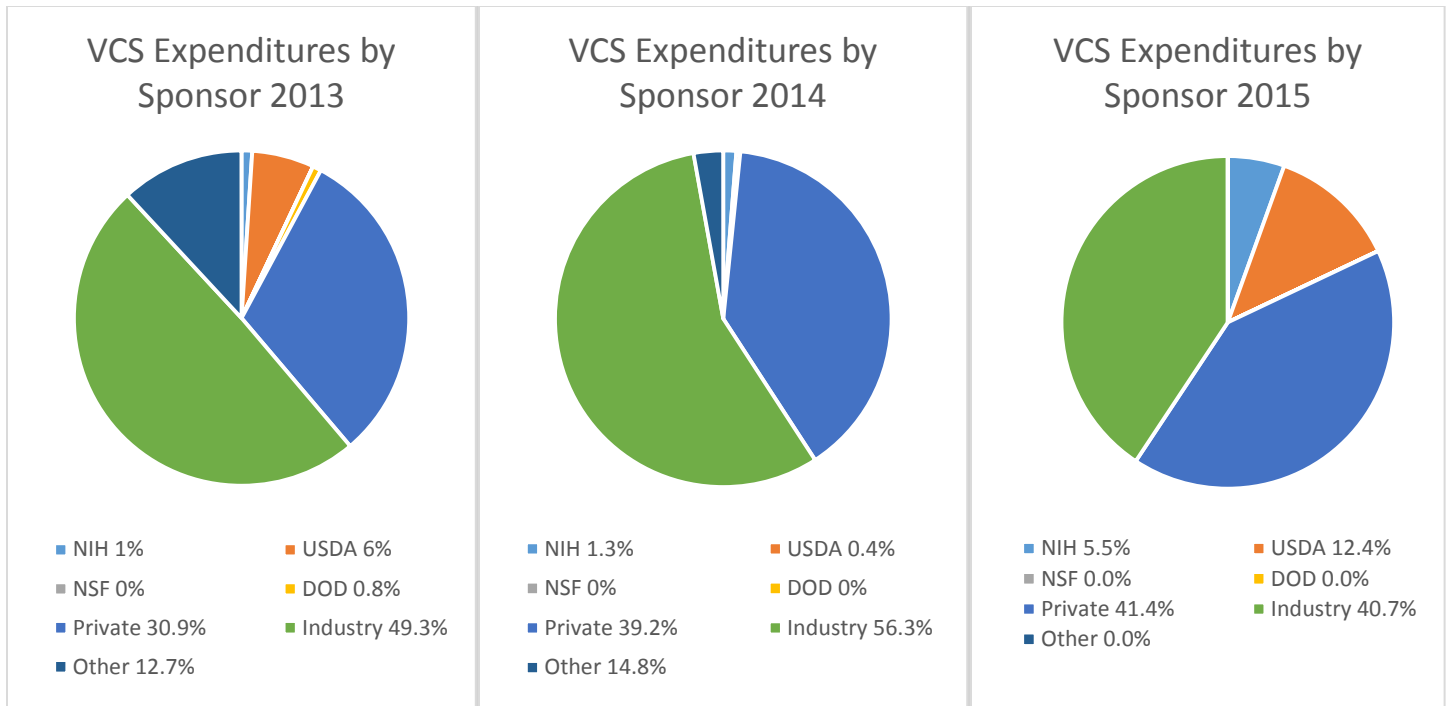
Breakdown of expenditures according to Sponsor by Department 2013 - 2015



VBS: Primary funding for this department is from NIH; several investigators were awarded R01 grants as opposed to R21 grants in 2015. Support from industry contracts has remained stable.



VPM: The funding portfolio in VPM is much broader than for VBS or VCS. In 2015, NIH, USDA, and Other (US Fish and Wildlife, OH Sea Grant, State Cooperative Epidemiologists, State of Ohio, etc.) provided the main sources of funds to VPM investigators. VPM investigators are the least likely in the College to seek Industry funding.



VCS: Industry contracts are the main source of funding for VCS investigators; in 2015, sponsorship by Industry was just eclipsed by funding from private sponsors (Foundations). This trend also influences F&A recovery because Foundations typically do not allow F&A recovery.

2015 CVM Peer-Reviewed Publications and Book Chapters

(Information compiled and provided by Department Chairs from Annual Review Documents)

Aarnes, Turi

Aarnes TK, Bednarski RM, "Diseases associated with pregnancy". In "Canine and Feline Anesthesia and Co-Existing Disease". Edited by: Snyder LBC, Johnson RA. Ames: Wiley Blackwell. 2015.

Karrasch NM, Hubbell JAE, **Aarnes TK**, Bednarski RM, Lerche P, "Comparison of cardiorespiratory variables in dorsally recumbent horses anesthetized with guaifenesin-ketamine-xylazine spontaneously breathing 50% or maximal oxygen concentrations". Canadian Veterinary Journal. Vol. 56, 387-392. 2015.

Karrasch NM, Lerche P, **Aarnes TK**, Gardner H, London CA, "The effects of pre-emptive analgesia with carprofen or tramadol in dogs undergoing cutaneous tumor removal". Canadian Veterinary Journal. Vol. 56, 817-822. 2015.

Balakrishnan, Anusha

Balakrishnan A, Drobatz KJ, Reineke EL. Anemia, Phlebotomy Practices and Blood Transfusion Requirements in 45 Critically Ill Cats. *Journal of Veterinary Emergency and Critical Care* ePub 2015.

Bas, Santiago

Titler M, Maquivar MG, **Bas S**, Rajala-Schultz PJ, Gordon E, McCullough K, Federico P, Schuenemann GM, "Prediction of parturition in Holstein dairy cattle using electronic data loggers". *Journal of Dairy Science*. 2015;98(8): 5304-12.

Schuenemann G.M., **Bas S.**, Workman J. D. "Management Practices for Successful Calving" In: WCDS Advances in Dairy Technology. 2015;27:301-316.

Bednarski, Richard

Bednarski RM, "Anesthetic Machine and Equipment Check". In "Questions and Answers in Small Animal Anesthesia". 1 ed. Edited by: Smith LJ. Ames: Wiley Blackwell. 19 - 31. 2015.

Bednarski RM, "Dogs and Cats". In "Veterinary Anesthesia and Analgesia: The fifth edition of Lumb and Jones". 5 ed. Edited by: Grimm KA, Lamont LA, Tranquilli WJ, Greene SA, Robertson SA. Ames: Wiley Blackwell. 819-826. 2015.

Belknap, James

Grundmann, I. N. M.; Drost, W. T.; Zekas, L. J.; **Belknap J. K.**; Garabed, R. B.; Weisbrode, S. E.; Parks, A. H.; Knopp, M. V.; Maierl, J Quantitative assessment of the equine hoof using digital radiography and magnetic resonance imaging. Wiley-Blackwell, Oxford, UK, *Equine Veterinary J*, 2015, 47, 5, pp 542-547.

Leise, B. S.; Watts, M. R.; Roy, S.; Yilmaz, A. S.; Alder, H. **Belknap J. K.**; Use of laser capture microdissection for the assessment of equine lamellar basal epithelial cell signaling in the early stages of laminitis. *Equine Veterinary Journal*, 2015, 47, 4, pp 478-488.

Burns, T. A.; Watts, M. R.; Weber, P. S.; McCutcheon, L. J.; Geor, R. J. **Belknap J. K.** Laminar inflammatory events in lean and obese ponies subjected to high carbohydrate feeding: implications for pasture-associated laminitis. *Equine Veterinary Journal*, 2015, 47, 4, pp 489-493.

Bergdall, Valerie

Lewis SD, Hickman-Davis JM, **Bergdall VK**. Institutional Animal Care and Use Committee Considerations Regarding the Use of Virus-Induced Carcinogenesis and Oncolytic Viral Models. *ILAR J*. 2016;57(1):86-94.

LeMoine DM, **Bergdall VK**, Freed C. Performance analysis of exam gloves used for aseptic rodent surgery. *J Am Assoc Lab Anim Sci*. 2015 May;54(3):311-6.

Gnyawali SC, Barki KG, Mathew-Steiner SS, Dixith S, Vanzant D, Kim J, Dickerson JL, Datta S, Powell H, Roy S, **Bergdall V**, Sen CK. High-resolution harmonics ultrasound imaging for non-invasive characterization of wound healing in a pre-clinical swine model. *PLoS One*. 2015 Mar 23;10(3):e0122327. doi: 10.1371/journal.pone.0122327.

Bertone, Alicia

Mari Kaido, *Allison H. Kilborne, *Joy L. Sizemore, *Natalie A. Reisbig, Turi K. Aarnes, **Alicia L. Bertone**. Effect of repetition within trials and frequency of trial sessions on quantitative parameters of vertical peak force in horses with naturally occurring lameness. Accepted, *Am J Vet Res*, 2015.

Ishihara A, Weisbrode SE, **Bertone AL**. Autologous implantation of BMP2-expressing dermal fibroblasts to improve bone mineral density and architecture in rabbit long bones. *J Orthop Res*, 2015; Oct; 33(10):1455-65.

Juan E. Santiago-Torres, Rebecca Lovasz, **Alicia L. Bertone**. Fetal vs Adult mesenchymal stem cells achieve greater gene expression, but less osteoinduction. *World J Stem Cells*, 2015 January 26;7(1):223-234. Published online 2015 January

Mundy LN, Ishihara A, Wellman ML, **Bertone AL**. Evaluation of the ability of a gravitational filtration system to enhance recovery equine bone marrow elements. *Am J Vet Res* 76(6):561-9; 2015.

Sasan Ghassab, Jennifer Dulin, and **Alicia L. Bertone**. Thromboelastographic Clot Characteristics of Autologous Equine Blood Products After Activated by Autologous Thrombin, Bovine Thrombin, or Calcium Chloride. *Veterinary Surgery* 44:970-974, 2015.

Elizabeth M. Santschi, DVM, Diplomate ACVS, Jarred M. Williams, MS, DVM, Diplomate ACVS, Joseph W. Morgan, DVM, Diplomate ACVS, Christopher R. Johnson, MS, DVM, Diplomate ACVS, **Alicia L. Bertone**, James S. Juzwiak. Preliminary Investigation of the Treatment of Equine Medial Femoral Condylar Subchondral Cystic Lesions with a Transcondylar Screw. *Veterinary Surgery* 44 (2015) 281-288.

Bonagura, John

Bonagura JD, Luis Fuentes VL: "Echocardiography" in Mattoon JS, Nyland TG (eds): *Small Animal Diagnostic Ultrasound* (3rd ed), 2015, pp 217-331.

Bonagura JD, Scansen BA: "Patent Ductus Arteriosus" in Tilley LP & Smith FS (eds): *The 5 Minute Veterinary Consult* (6th ed), Baltimore, Williams & Wilkins; 2015, p 1021.

Hitchcock LS, **Bonagura JD**: "Atrioventricular Valvular Stenosis" in Tilley LP & Smith FS (eds): *The 5 Minute Veterinary Consult* (6th ed), Baltimore, Williams & Wilkins; 2015, p158.

Bonagura JD: "Tetralogy of Fallot" in Cote E (ed): *Clinical Veterinary Advisor: Dogs and Cats* (3rd ed), 2015, pp 989-990.

Bonagura JD: "Lymphedema" in Cote E (ed): *Clinical Veterinary Advisor: Dogs and Cats*, 2nd ed, 2015, pp 609-610.

Bond, Randall

Bond R, Premanandan C, "A unique phenotypical presentation of a male pseudohermaphrodite in a dairy bull calf". *Clinical Theriogenology*. 2016;8(1):55-61.

Bowman, Andrew

Bender J, Blackmore C, **Bowman A**, Burkgren T, Calico M, Ellis D, Finelli L, Forshey T, Garvey A, Kasari E, Keeman J, Lauxman L, Marsh B, Paul M, Scheftel J, Trock S, Uyeki T, "Measures to Minimize Influenza Transmission at Swine Exhibitions, 2015". National Assembly of State Animal Health Officials & National Association of State Public Health Veterinarians.

Nolting JM, Szablewski CM, Edwards JL, Nelson SW, **Bowman AS**, "Nasal wipes for influenza A virus detection and isolation from swine". *Journal of Visualized Experiments*. 2015;106:e53313.

Nolting JM, Fries AC, Gates RJ, **Bowman AS**, Siemens RD, "Influenza A viruses from over-wintering and spring- migrating waterfowl in the Lake Erie Basin, United States". *Avian Diseases* Vol. E pub, ahead of press. 2015.

Bowman AS, Nolting JM, Nelson SW, Bliss N, Stull JW, Wang a, Premanandan C, "Effects of disinfection on the molecular detection of porcine epidemic diarrhea virus". *Veterinary Microbiology*. Vol. 179, no. 3-4: 213-218. 2015.

Bowman AS, Nolting JM, Massengill R, Baker J, Workman JD, Siemens RD, "Influenza A Virus Surveillance in Waterfowl in Missouri, USA, 2005-2013". *Avian Diseases*. Vol. 59, no. 2: 303-308. 2015.

Fries AC, Nolting JM, **Bowman AS**, Lin X, Halpin RA, Wester E, Fedorova N, Stockwell TB, Das SR, Dugan VG, Wentworth DE, Gibbs HL, Siemens RD, "Spread and persistence of influenza a viruses in waterfowl hosts in the North American Mississippi migratory flyway." *Journal of Virology*. Vol. 89, no. 10: 5371-5381. 2015.

Bowman AS, Krogwold RA, Price T, Davis M, Moeller SJ, "Investigating the introduction of porcine epidemic diarrhea virus into an Ohio swine operation". *BMC Veterinary Research*. Vol. 11, 38.2015.

Boyaka, Prosper

Jee J, Bonnegarde-Bernard A, Duverger A, Iwakura Y, Cormet-Boyaka E, Martin TL, Steiner HE, Bachman RC, **Boyaka PN**. Neutrophils negatively regulate induction of mucosal IgA responses after sublingual immunization. *Mucosal Immunol*. 2015 Jul;8(4):735-45. doi: 10.1038/mi.2014.105. Epub 2015 Jan 7. PMID: PMC4481173.

Xu X, Balsiger R, Tyrrell J, **Boyaka PN**, Tarran R, Cormet-Boyaka E. Cigarette smoke exposure reveals a novel role for the MEK/ERK1/2 MAPK pathway in regulation of CFTR. *Biochim Biophys Acta*. 2015 Jun;1850(6):1224-32. doi: 10.1016/j.bbagen.2015.02.004. Epub 2015 Feb 16. PMID: PMC4398641.

Ngunjiri JM, Ali A, **Boyaka P**, Marcus PI, Lee CW. In vivo assessment of NS1-truncated influenza virus with a novel SLSYSINWRH motif as a self-adjuvanting live attenuated vaccine. *PLoS One*. 2015 Mar 19;10(3):e0118934. doi: 10.1371/journal.pone.0118934. eCollection 2015. PMID: PMC4366013.

Nair MS, Lee MM, Bonnegarde-Bernard A, Wallace JA, Dean DH, Ostrowski MC, Burry RW, **Boyaka PN**, Chan MK. Cry protein crystals: a novel platform for protein delivery. *PLoS One*. 2015 Jun 1;10(6):e0127669. doi: 10.1371/journal.pone.0127669. eCollection 2015. PMID: PMC4451076.

Brokken, Matthew

Porter E, **Brokken MT**, Holmes SP, "Diagnosis and Treatment of Carpometacarpal Desmopathy in a Horse". Equine Veterinary Education. Vol. Early View Online, Early View Online DOI: 10.1111/eve.12306. 2015.

Brown, Megan

Brown, Megan, E; Bear, Misty, D; Rosol, Thomas, J; Premanandan, Chris; Kisseberth, William, C; London, Cheryl, A, "Characterization of STAT3 expression, signaling and inhibition in feline oral squamous cell carcinoma". BMC Veterinary Research. Vol. 11, 2015.

Burns, Teresa

Liepman, RS, **Burns, TA**, Mulligan, KA, Drost, WT, "What Is Your Diagnosis? Acute severe trauma resulting in multiple fractures and complete luxation of the thoracic vertebral column". Journal of the American Veterinary Medical Association. Vol. 247, no. 9: 1011-3. 2015.

Burns, TA, Watts, MR, Weber, PS, McCutcheon, LJ, Geor, RJ, Belknap, JK, "Laminar inflammatory events in lean and obese ponies subjected to high-carbohydrate feeding: implications for pasture-associated laminitis". Equine Veterinary Journal. Vol. 47, no. 4: 489-93. 2015.

Gardner, AK, Kelly, CS, van Eps, AW, **Burns, TA**, Watts, MR, Belknap, JK, "Mitogen-activated kinase pathway activation in epidermal lamellae in the acute stages of carbohydrate overload laminitis models and the effect of regional deep hypothermia on signalling pathways". Equine Veterinary Journal. Vol. doi: 10.1111/evj.12488. [Epub ahead of print], doi: 10.1111/evj.12488. [Epub ahead of print]. 2015.

Kullmann, A, Weber, PS, Bishop, JB, Roux, TM, Norby, B, **Burns, TA**, McCutcheon, LJ, Belknap, JK, Geor, RJ, "Equine insulin receptor and insulin-like growth factor-1 receptor expression in digital lamellar tissue and insulin target tissues". Equine Veterinary Journal. Vol. doi: 10.1111/evj.12474. [Epub ahead of print], doi: 10.1111/evj.12474. [Epub ahead of print]. 2015.

Byron, Julie

Byron, JK, "Urethral Bulking Agents". In "Veterinary Image-Guided Interventions". 1 ed. Edited by: Weisse, C, Berent, A. Malden: Wiley-Blackwell. 2015.

Byron, JK, "Uroendoscopy". In "Veterinary Image-Guided Interventions". 1 ed. Edited by: Weisse, C, Berent, A. Malden: Wiley-Blackwell. 2015.

Habing, A, **Byron, JK**, "Urogenital System: Imaging". In "Veterinary Image-Guided Interventions". 1 ed. Edited by: Weisse, C, Berent, A. Malden: Wiley-Blackwell. 2015.

Byron, JK, "Micturition Disorders". In "Veterinary Clinics of North America: Urology". 4 ed. Vol. 45 Edited by: Bartges, J. Atlanta: Elsevier. 769-782. 2015.

Wavreille V, Adin CA, Arango J, **Byron JK**, McLoughlin MA, "Suture-free techniques for canine ureteral resection anastomosis using a microvascular anastomotic system: a cadaveric study". Veterinary Surgery. Vol. 44, no. 1: 17-22. 2015.

Cianciolo, Rachael

Cianciolo RE, Benali SL, Aresu L. Aging in the canine kidney. Vet Pathol, Epub: 2015. PMID: 26508694

Davis J, Rasis AL, **Cianciolo RE**, Miller DW, Shiel RE, Nabity MB, Hosgood GL. Urinary neutrophil gelatinase-associated lipocalin concentration changes after acute hemorrhage and colloid-mediated reperfusion in anaesthetized dogs. Vet Anaesth Analg, Epub: 2015. PMID: 26469528.

Clarke ES, Pepper VK, Best CA, Onwuka EA, Yi T, Tara S, **Cianciolo R**, Baker P, Shinoka T, Breuer CK. A mouse model of endocardial fibroelastosis. *Cardiovasc Pathol*, 24(6):388-394, 2015. PMID: 26363814.

Ware KM, Feinstein DL, Rubinstein I, Weinberg G, Rovin BH, Hebert L, Muni N, **Cianciolo RE**, Satoskar AA, Nadasdy T, Brodsky SV. Brodifacoum induces early hemoglobinuria and late hematuria in rats: novel rapid biomarkers of poisoning. *Am J Nephrol*, 41(4-5):392-399, 2015. PMID:26111556.

Holm LP, Hawkins I, Robin C, Newton RJ, Jepson R, Stanzani G, McMahon LA, Pesavento P, Carr T, Cogan T, Couto CG, **Cianciolo R**, Walker DJ. Cutaneous and renal glomerular vasculopathy as a cause of acute kidney injury in dogs in the UK. *Vet Rec*, 176(15):384, 2015. PMID: 25802439.

McLeland SM, **Cianciolo RE**, Duncan CG, Quimby JM. A comparison of biochemical and histopathologic staging in cats with chronic kidney disease. *Vet Pathol*, 52(3):524-534, 2015. PMID:25516066.

Coble, Dondrae

Ammirati, M, Lamki, T, Chitnis, G, Yang, X, Russell, D, **Coble, D**, Kaur, B, Knopp, M, Moore, S, Ziaie, B, "In vivo Brain electrophoresis- A Novel Method for Chemotherapy of Central Nervous System Diseases". *Expert Opinion on Drug Delivery*. Vol. 12, no. 5: 727-734. 2015.

Coble D, Shoemaker M, Dardenne A, and Bolon B., "Histiocytic Sarcoma and Bilateral Facial Vein Thrombosis in a Siberian Hamster (*Phodopus sungorus*)". *Comparative Medicine*. Vol. 65, no. 2: 127-132. 2015.

Cole, Lynette

Cole,Lynette,K; Samii,Valerie,F; Wagner,Susan,O; Rajala-Schultz,Paeivi,J, "Diagnosis of primary secretory otitis media in the cavalier King Charles spaniel". *Veterinary Dermatology*. Vol. 26, no. 6: 459-?. 2015.

Hnot,Melanie,L; **Cole,Lynette,K**; Lorch,Gwendolen; Rajala-Schultz,Paivi,J; Papich,Mark,G, "Effect of feeding on the pharmacokinetics of oral minocycline in healthy research dogs". *Veterinary Dermatology*. Vol. 26, no. 6: 399-?. 2015.

Hnot,Melanie,L; **Cole,Lynette,K**; Lorch,Gwendolen; Papich,Mark,G; Rajala-Schultz,Paivi,J; Daniels,Joshua,B, "Evaluation of canine-specific minocycline and doxycycline susceptibility breakpoints for meticillin-resistant *Staphylococcus pseudintermedius* isolates from dogs". *Veterinary Dermatology*. Vol. 26, no. 5: 334. 2015.

Cook, Laurie

Chawla P, **Cook L**, Himmell L, Zekas L, Oglesbee M, "Coextensive Meningioma and Cholesterol Granuloma in the Forebrain of a Cat". *Journal of Veterinary Internal Medicine*. Vol. 29, no. 6: 1638-1642. 2015.

Cooper, Edward

Cooper ES, "Urinary Tract Obstruction". In "Blackwell's 5-minute Veterinary Consult: Canine and Feline". Edited by:Tilley LP, Smith FW. Hoboken: Wiley Blackwell. 2015.

Friedenberg SG, Balakrishnan N, Guillaumin J, **Cooper ES**, Lewis K, Russell DS, Breitschwerdt EB, "Splenic vasculitis, thrombosis, and infarction in a febrile dog infected with *Bartonella henselae*". *Journal of Veterinary Emergency and Critical Care*. Vol. 25, no. 6: 789-794. 2015.

Goodnight ME, **Cooper ES**, Butler AL, "Assessment of microcirculatory perfusion in healthy anesthetized cats undergoing ovariohysterectomy using sidestream dark field microscopy". *Journal of Veterinary Emergency and Critical Care*. Vol. 25, no. 3: 349-357. 2015.

Cooper ES, "Controversies in the Management of Feline Urethral Obstruction". Review of Feline Urethral Obstruction, *Journal of Veterinary Emergency and Critical Care*. Vol. 25, no. 1: 130-137. 2015.

Cormet-Boyaka, Estelle

Junbae Jee, Astrid Bonnegarde-Bernard, Alexandra Duverger, Yoichiro Iwakura, **Estelle Cormet-Boyaka**, Tara Martin, Haley E. Steiner, Ryan C. Bachman, and Prosper N. Boyaka. Neutrophils negatively regulate induction of mucosal IgA responses after sublingual immunization. *Mucosal Immunology*, doi: 10.1038/mi.2014.105 (2015).

Xiaohua Xu, Robert Balsiger, Jean Tyrrell, Prosper N. Boyaka, Robert Tarran, and **Estelle Cormet-Boyaka**. Cigarette smoke exposure reveals a novel role for the MEK/ERK1/2 MAPK pathway in regulation of CFTR. *Biochimica et Biophysica Acta (BBA) General Subjects*, 1850(6):1224-32. 2015.

Qian Z, Xu X, Amacher JF, Madden DR, **Cormet-Boyaka E**, Pei D. Intracellular Delivery of Peptidyl Ligands by Reversible Cyclization: Discovery of a PDZ Domain Inhibitor that Rescues CFTR Activity. *Angew Chem Int Ed Engl.*, 54(20):5874-8. 2015.

Matthew Gorr, Dane Youtz, Clayton Eichenseer, Korbin Smith, Timothy Nelin, **Estelle Cormet-Boyaka**, and Loren Wold. (2015) In vitro particulate matter exposure causes direct and lung-mediated indirect effects on cardiomyocyte function. *American Journal of Physiology - Heart and Circulatory Physiology*, doi: 10.1152/ajpheart.00162. 2015.

Xin Zhang, Ramona Schulz, Shelley Edmunds, Elke Krüger, Elke Markert, Jochen Gaedcke, **Estelle Cormet-Boyaka**, Michael Ghadimi, Tim Beissbarth, Arnold J. Levine, Ute M. Moll, and Matthias Dobbelstein. (2015) MicroRNA-101 Suppresses Tumor Cell Proliferation by Acting as an Endogenous Proteasome Inhibitor via Targeting the Proteasome Assembly Factor POMP. *Molecular Cell*, 58(2):243-257 2015.

da Costa, Luciana

da Costa L; Rajala-Schultz PJ; Schuenemann G. "Management practices associated with presence of *Staphylococcus aureus* in bulk tank milk from Ohio dairy herds." *Journal of Dairy Science*. 2016;99:1364-1373.

da Costa, Ronaldo

Dewey, CW, **da Costa, RC**, ed. "Practical Guide to Canine and Feline Neurology". Ames, Iowa: Wiley. 2015.

da Costa, RC, "Cervical spondylomyelopathy (wobbler syndrome)". In "Blackwell's 5 Minute Veterinary Consult: Canine and Feline, 6th ed". Edited by:Tilley, LP; Smith, FWK. Ames: Wiley. 2015.

da Costa, RC, "Nerve sheath tumor". In "Blackwell's 5 Minute Veterinary Consult: Canine and Feline, 6th ed". Edited by:Tilley, LP; Smith, FWK. Ames: Wiley. 2015.

Hecht S, **da Costa RC**, "Principles and Application of Magnetic Resonance Imaging - Brain and spine". In "Practical Guide to Canine and Feline Neurology". Edited by:Dewey CW, da Costa RC. Ames: Wiley. 2015.

Dewey CW, **da Costa, RC**, Ducote J, "Neurodiagnostics". In "Practical Guide to Canine and Feline Neurology, 3rd Ed". Edited by:Dewey CW, da Costa RC. Ames: Wiley. 2015.

Dewey CW, **da Costa, RC**, "Neurology and Neuropharmacology of Normal and Abnormal Urination". In "Practical Guide to Canine and Feline Neurology, 3rd Ed". Edited by:Dewey CW, da Costa RC. Ames: Wiley. 2015.

Dewey CW, **da Costa, RC**, "Myelopathies: Disorders of the Spinal Cord". In "Practical Guide to Canine and Feline Neurology, 3rd Ed". Edited by:Dewey CW, da Costa RC. Ames: Wiley. 2015.

Fletcher DJ, Dewey CW, **da Costa, RC**, "Spinal Trauma Management". In "Practical Guide to Canine and Feline Neurology, 3rd Ed". Edited by:Dewey CW, da Costa RC. Ames: Wiley. 2015.

Dewey CW, **da Costa, RC**, "Disorders of the Cauda Equina". In "Practical Guide to Canine and Feline Neurology, 3rd Ed". Edited by:Dewey CW, da Costa RC. Ames: Wiley. 2015.

da Costa, RC, Dewey CW, "Differential Diagnosis". In "Practical Guide to Canine and Feline Neurology, 3rd Ed". Edited by:Dewey CW, da Costa RC. Ames: Wiley. 2015.

Dewey CW, **da Costa, RC**, Thomas WB,, "Performing the Neurologic Examination". In "Practical Guide to Canine and Feline Neurology. 3rd Ed". Edited by:Dewey CW, da Costa RC. Ames: Wiley. 2015.

Dewey CW, **da Costa, RC**, "Signalment and History: the first considerations". In "Practical Guide to Canine and Feline Neurology. 3rd Ed". Edited by:Dewey CW, da Costa RC. Ames: Wiley. 2015.

da Costa, RC, "Cervical spondylomyelopathy". In "Clinical Veterinary Advisor: Dogs and Cats, 3rd ed". Cote E, 3rd ed. St. Louis, MO: Elsevier. 168-169. 2015.

Lima CGD, **da Costa RC**, Foss K., Allen M, "Temporospatial and kinetic variables of gait in Doberman Pinschers with and without Cervical Spondylomyelopathy". American Journal of Veterinary Research. Vol. 76, no. 10: 848-852. 2015.

Ramos RM, **da Costa RC**, Oliveira ALA, Goel V, Kodigudla MK, "Morphological changes of the caudal cervical intervertebral foramina due to flexion-extension and compression-traction movements in the canine cervical vertebral column". BMC Veterinary Research. Vol. 11, 1-8. 2015.

Martin-Vaquero P, **da Costa RC**, Moore SA, Allen MJ, Green E, "Proteomic analysis of the cerebrospinal fluid of Great Danes with cervical spondylomyelopathy". Spine. Vol. 40, no. 9: 601-612. 2015.

Ramos RM, **da Costa RC**, Oliveira AL, Kodigudla MK, Goel VK, "Effects of Flexion and Extension on the Diameter of the Cervical Vertebral Canal in Dogs". Veterinary Surgery. Vol. 40, no. 4: 459-466. 2015.

Song RB, Vitullo CA, **da Costa RC**, Daniels J, "Long term survival in a dog with meningoencephalitis and epidural abscessation due to Actinomyces sp.". Journal of Veterinary Diagnostic Investigation. Vol. 27, no. 4: 552-557. 2015.

Jurkoshek AM, **da Costa RC**, Martin-Vaquero P, "The effect of angle slice acquisition on computed tomographic cervical vertebral column morphometry in Great Danes". Veterinary Radiology and Ultrasound. Vol. Online, 1-8. 2015.

Ciepluch M, **da Costa RC**, Russell D, ""Imaging Diagnosis – An atypical case of diffuse idiopathic skeletal hyperostosis"". Veterinary Radiology and Ultrasound. Vol. 56, no. 1: E5-8. 2015.

Martin-Vaquero P, **da Costa RC**, "Body conformation in Great Danes with and without clinical signs of cervical spondylomyelopathy". The Veterinary Journal. Vol. 203, no. 2: 219-222. 2015.

Daniels, Joshua

Hnot,Melanie,L; Cole,Lynette,K; Lorch,Gwendolen; Papich,Mark,G; Rajala-Schultz,Paivi,J;
Daniels,Joshua,B, "Evaluation of canine-specific minocycline and doxycycline susceptibility breakpoints for meticillin-resistant Staphylococcus pseudintermedius isolates from dogs". Veterinary Dermatology. Vol. 26, no. 5: 334-?. 2015.

Song,Rachel,B; Vitullo,Carina,A; da Costa,Ronaldo,C; **Daniels,Joshua,B**, "Long-term survival in a dog with meningoencephalitis and epidural abscessation due to Actinomyces species". J Vet Diagnostic Investigation. Vol. 27, no. 4: 552-557. 2015.

Davis, Ian

Wu, Y., Ma, J., Woods, P.S., Chesarino, N., Lee, L.J., Nana-Sinkham, S.P., **Davis, I.C.** (2015). Selective targeting of alveolar type II respiratory epithelial cells by anti-surfactant protein-C antibody-conjugated lipoplexes. *J. Control. Release.* 203C: 140-149. PMID: 25687308.

Hofer, C., Woods, P., **Davis, I.C.** (2015). Infection of mice with influenza A/WSN/33 (H1N1) virus alters alveolar type II cell phenotype. *Am. J. Physiol. (Lung Cell. Mol. Physiol.)*. 308: L628-L638. PMID: 25595651.

Woods, P.S., Tazi, M.F., Chesarino, N.M., Amer, A.O., **Davis, I.C.** (2015). TGF-Beta-induced IL-6 prevents development of acute lung injury in influenza A virus-infected F508del CFTR-heterozygous mice. *Am. J. Physiol. (Lung Cell. Mol. Physiol.)*. 308: L1136-L1144. PMID: 25840995.

Aeffner, F., Bolon, B., **Davis, I.C.** (2015). Mouse models of acute respiratory distress syndrome: A review of analytical approaches, pathologic features, and common measurements. *Toxicol. Path.* 43: 1074-1092. PMID:26296628.

Aeffner, F., Woods, P.S., **Davis, I.C.** (2015). Ecto-5'-nucleotidase CD73 modulates the innate immune response to influenza infection but is not required for development of influenza-induced acute lung injury. *Am. J. Physiol. (Lung Cell. Mol. Physiol.)*. 309: L1313-L1322. PMID: 26432867.

Dennis, Pam

Katherine L. Krynak, Ronald G. Oldfield, **Patricia M. Dennis**, Michael Durkalec, Claire Weldon, "A novel field technique to assess ploidy in introduced Grass Carp (*Ctenopharyngodon idella*, Cyprinidae)". *Biological Invasions*. Vol. 17, 131-1939. 2015.

Schook, Mandi, W; Wildt, David, E; Raghanti, Mary, Ann; Wolfe, Barbara, A; **Dennis, Patricia, M**, "Increased inflammation and decreased insulin sensitivity indicate metabolic disturbances in zoo-managed compared to free-ranging black rhinoceros (*Diceros bicornis*)." *General and Comparative Endocrinology*. Vol. 217-218, 10-19. 2015.

Gregory A Ballash, J P Dubey, O C H Kwok, Abigail B Shoben, Terry L Robison, Tom J Kraft, **Patricia M Dennis**, "Seroprevalence of *Toxoplasma gondii* in White-Tailed Deer (*Odocoileus virginianus*) and Free-Roaming Cats (*Felis catus*) Across a Suburban to Urban Gradient in Northeastern Ohio." *EcoHealth*. Vol. 12, no. 2: 359-367. 2015.

Diaz Vergara, Sandra

S. Apple, **S. Diaz**. "Senior Cat with Front Paw Swelling and Pain". Case Report. *Today's Veterinary Practice*, September/October 2015.

Drost, Tod

Wavreille V, Fitzpatrick N, **Drost WT**, Russell D, Allen MJ, "Correlation Between Histopathologic, Arthroscopic, and Magnetic Resonance Imaging Findings in Dogs With Medial Coronoid Disease". *Vet Surg*. Vol. 44, no. 4: 501-510. 2015.

Huynh E, **Drost WT**, McMurray AM, "What Is Your Diagnosis? - Gastrointestinal Perforation Diagnosed using Computed Tomography". *Journal of the American Veterinary Medical Association*. Vol. 246, no. 10: 1063-1065. 2015.

Liepman, RS, Burns T, Mulligan KA, **Drost, WT**, "What Is Your Diagnosis? - Vertebral fractures with complete luxation in a filly". *Journal of the American Veterinary Medical Association*. Vol. 247, no. 9: 1011-1013. 2015.

Drost, WT, "I have an ultrasound machine-how do I aspirate stuff?". *Veterinary Medicine*. Vol. 110, no. 6: 152. 2015.

Dyce, Jon

Montgomery ML, Kim SE, **Dyce J**, Pozzi A. The effect of dorsal rim loss on the initial stability of the BioMedtrix cementless acetabular cup. *BMC Veterinary Research*. 2015;11:68. doi:10.1186/s12917-015-0383-z.

Liska W, **Dyce J**. Total hip replacement. In *Complications in Small Animal Surgery* (Eds Griffon & Hamaide) Wiley-Blackwell ISBN: 978-0-470-95962-6.

Dyce J. Non surgical management of fractures In *BSAVA Manual of Canine and Feline Fracture Repair and Management*, 2nd edition (Eds Gemmill , Clements) ISBN-13: 978-1905319688

Fenger, Joelle

Gardner HL, **Fenger JM**, London CA, "Dogs as a Model for Cancer". *Review of Comparative Oncology*, *Annu Rev Anim Biosci.* Vol. 4, 8. (2015) DOI: 10.1146/annurev-animal-022114-110911.

Freed, Carrie

Lemoine, D, Bergdall, V, **Freed,C**,"Alternatives to Sterile Surgeon's Glove for Rodent Survival Surgery." *JAALAS*. Vol. 54, no. 3. (May 2015): 311-316.

Garabed, Rebecca

Xiao N,Cai S, Moritz M. **Garabed R**, Pomeroy L., "Spatial and Temporal Characteristics of Pastoral Mobility in the Far North Region, Cameroon:Data Analysis and Modeling".*PLOS ONE*.Vol.10, no.7:e0131697. 2015.

Pomeroy LW, Bj111mstad ON, Kim H,Jumbo SD,Abdoulkadiri S, **Garabed R**, "Serotype-Specific Transmission and Waning Immunity of Endemic Foot-and-Mouth Disease Virus in Cameroon".*PLOS ONE*. Vol. 10, no.9:e0136642. 2015.

Grundmann, Drost W, Zekas L,Belknap J, **Garabed R**, Weisbrode S, Parks A, Knopp M, Maierl J,"Quantitative assessment of the equine hoof using digital radiography and magnetic resonance imaging". *Equine Veterinary Journal*. Vol. 47, no.5:542-547.2015.

Maxwell M, Subia J, Abrego J, Garabed R, Xiao N, Toribio R, "Temporal and Spatial Analysis of the New World Screwworm (*Cochliomyia hominivorax*) in Darien and Embera, Panama (2001-2011)".*Transboundary and Emerging Diseases*.Vol. online, 12457.2015.

Pomeroy L, Bansal S, Ti desley M, Moreno-Torres K,Moritz M,Xiao N, Carpenter T, **Garabed R**, "Data-Driven Models of Foot-and-Mouth Disease Dynamics:A Review".*Transboundary and Emerging Diseases*.Vol. online, 12437.2015.

Gardner, Alison

Gardner, A. K., et al. "Mitogen-activated kinase pathway activation in epidermal lamellae in the acute stages of carbohydrate overload laminitis models and the effect of regional deep hypothermia on signalling pathways." *Equine Veterinary Journal* (2015).

Gebreyes, Wondwossen

Kashoma IP, Kassem II, Kumar A, Kessy BM, **Gebreyes W**, Kazwala RR, Rajashekara G. 2015. Antimicrobial Resistance and Genotypic Diversity of Campylobacter Isolated from Pigs, Dairy, and Beef Cattle in Tanzania. *Front Microbiol.* 6:1240.

Seyoum ET, Woldetsadik DA, Mekonen TK, Gezahegn HA, **Gebreyes WA**. 2015. Prevalence of *Listeria monocytogenes* in raw bovine milk and milk products from central highlands of Ethiopia. *J Infect Dev Ctries.* 9 (11):1204-9. doi: 10.3855/jidc.6211. PMID:26623629

Eguale T, **Gebreyes WA**, Asrat D, Alemayehu H, Gunn JS, Engidawork E. 2015. Nontyphoidal Salmonella serotypes, antimicrobial resistance and co-infection with parasites among patients with diarrhea and other gastrointestinal complaints in Addis Ababa, Ethiopia. *BMC Infect Dis.* 15:497. doi: 10.1186/s12879-015-1235-y. PMID:26537951

Artuso-Ponte V, Moeller S, Rajala-Schultz P, Medardus JJ, Munyalo J, Lim K, **Gebreyes WA***. 2015. Supplementation with Quaternary Benzo(c)phenanthridine Alkaloids Decreased Salivary Cortisol and Salmonella Shedding in Pigs After Transportation to the Slaughterhouse. *Foodborne Pathog Dis.* 12(11):891-7. doi:10.1089/fpd.2015.2009. PMID: 26393495

Oliveira CJ, Tiao N, de Sousa FG, de Moura JF, Santos Filho L, **Gebreyes WA***. 2015. Methicillin-Resistant *Staphylococcus aureus* from Brazilian Dairy Farms and Identification of Novel Sequence Types. *Zoonoses Public Health.* doi: 10.1111/zph.12209. PMID: 26178302

Kashoma IP, Kassem II, John J, Kessy BM, **Gebreyes W**, Kazwala RR, Rajashekara G. 2015. Prevalence and Antimicrobial Resistance of Campylobacter Isolated from Dressed Beef Carcasses and Raw Milk in Tanzania. *Microb Drug Resist.* [Epub ahead of print]. PMID: 26153978.

Tigabu E, Asrat D, Kassa T, Sinmegn T, Molla B, **Gebreyes W***. 2015. Assessment of Risk Factors in Milk Contamination with *Staphylococcus aureus* in Urban and Peri-Urban Small-Holder Dairy Farming in Central Ethiopia. *Zoonoses Public Health.* doi:10.1111/zph.12199. PMID: 25916167.

Gilor, Chen

Vrabelova D, Zekas L, **Gilor C.**, "What Is Your Diagnosis? Biliary obstruction secondary to diaphragmatic hernia in a dog". *Journal of the American Veterinary Medical Association.* Vol. 246, no. 3: 295-297. 2015.

Rudinsky AJ, Adin CA, Borin-Crivellenti S, Rajala-Schultz P, Hall MJ, **Gilor C.**, "Pharmacology of the glucagon-like peptide-1 analog exenatide extended-release in healthy cats". *Domestic Animal Endocrinology.* Vol. 51, 78-85. 2015.

Hall MJ, Adin CA, Borin-Crivellenti S, Rudinsky AJ, Rajala-Schultz P, Lakritz J, **Gilor C.**, "Pharmacokinetics and pharmacodynamics of the glucagon-like peptide-1 analog liraglutide in healthy cats". *Domestic Animal Endocrinology.* Vol. 51, 114-121. 2015.

Gilor C, Glock R, Gilor S, "Duration of fasting but not diurnal variation affects the response to glucagon in healthy cats". *Domestic Animal Endocrinology.* Vol. 53, 103-107. 2015.

Rudinsky AJ, Clark ES, Russell DS, **Gilor C**, "Adrenal insufficiency secondary to lymphocytic panhypophysitis in a cat". *Australian Veterinary Journal.* Vol. 93, no. 9: 327-331. 2015.

Vrabelova, D, **Gilor, C**, Habing, A Schober, KE, Johnson, S., "Synchronous diaphragmatic flutter secondary to primary hypoparathyroidism in a dog". *Journal of the American Animal Hospital Association.* Vol. 51, no. 6: 392-5. 2015.

Parker V, **Gilor C**, Chew D., "Feline Hyperparathyroidism: Pathophysiology, diagnosis and treatment of primary and secondary disease". Journal of Feline Medicine and Surgery. Vol. 17, no. 5: 427-439. (2015).

Gordon, Eric

M. Titler, M.G. Maquivar, S. Bas, P.J. Rajala-Schultz, **E. Gordon**, K. McCullough, P. Federico, G.M. Schuenemann., "Prediction of parturition in Holstein dairy cattle using electronic data loggers". Journal of Dairy Science. Vol. 98, no. 8. 5304-5312. 2015.

Green, Patrick

Kawatsuki A, Yasunaga J, Mitobe Y, **Green PL**, Matsuoka M: HTLV-1 bZIP factor protein targets the Rb/E2F-1 pathway to promote proliferation and apoptosis of primary CD4+ T cells. Oncogene 2016, 35(34):4509-4517. PMID: PMC4959989.

Panfil AR, Al-Saleem J, Howard CM, Mates JM, Kwiek JJ, Baiocchi RA, **Green PL**: Protein arginine methyltransferase 5 is upregulated in HTLV-1-mediated T-cell transformation and selective inhibition alters viral gene expression and infected cell survival. Viruses 2015 8(1), 7; doi:10.3390/v8010007. PMID: PMC4728567.

Cherian MA, Baydoun HH, Al-Saleem J, Shkriabai N, Kvaratskhelia M, **Green PL**, Ratner L. Akt Activation by Human T-Cell Leukemia Virus Tax Oncoprotein. J Biol Chem 2015 Oct 23;290(43):26270-81 PMID: PMC4646275.

Baydoun HH, Cherian MA, **Green PL**, Ratner L. Inducible nitric oxide synthase mediates DNA double strand breaks in HTLV-1 induced leukemia/lymphoma. Retrovirology 2015 Aug;12:71. doi: 10.1186/s12977-015-0196-y. PMID: PMC4534112.

Takachi T, Takahashi-Yoshita M, Takahashi M, Higuchi M, Obata M, Mishima Y, Kominami R, Okuda S, Matsuoka M, Saito A, **Green PL**, Fujii M. Human T-cell leukemia virus type 1 Tax oncoprotein represses expression of the tumor suppressor BCL11B in T-cells. Cancer Science 2015 Apr; 106(4): 461–465 PMID: PMC440989

Guillaumin, Julien

S. Friedenberg, L. Chdid, N. Olby, T. Otoole, **J. Guillaumin**, K. Meurs., "Association of a variant allele in the dog leukocyte class I gene DLA-79 with multiple canine autoimmune diseases". Immunogenetics. Vol. doi: 10.1007/s00251-015-0894-6, [Epub ahead of print]. 2015.

S. Friedenberg, N. Balakrishnan, **J. Guillaumin**, E. Cooper E, K. Lewis, D. Russell, E. Breitschwerdt., "Fever, polyarthritis, splenic vasculitis, thrombosis and infarction in a dog infected with Bartonella henselae". Journal Veterinary Emergency and Critical Care. Vol. doi: 10.1111/vec.12367, [Epub ahead of print]. 2015.

Habing, Greg

Anderson, CD, Haulena, M, Zabek, E, **Habing, G**, Raverty, S, "Clinical and Epidemiologic Consideration of Clostridium difficile in harbor seals (Phoca Vitulina) at a Marine Mammal Rehabilitation Center". Journal of Zoo and Wildlife Medicine. Vol. 46, no. 2: 191-197. 2015.

Habing, GG, Manning, S, Bolin, C, Cui, Y, Rudrik, J, Dietrich, S, Kaneene, J, "Within-farm Changing in Dairy Farm Associated *Salmonella* Subtypes and Comparison to Human Clinical Isolates in Michigan, USA 2000-20001 and 2009". Applied and Environmental Microbiology Vol. Epub Ahead of Print, 1-26. 2015.

Proudfoot, K, **Habing, GG**, "Social stress as a cause of disease in farm animals: Current knowledge and future directions". The Veterinary Journal. Vol. Epub Ahead of Print, 1-15. 2015.

Hickman-Davis, Judy

Lewis, Stephanie D., **Hickman-Davis, Judy M.** and Bergdall, Valerie K. 2015. IACUC Considerations Regarding the Use of Viral-Induced Carcinogenesis and Oncolytic Viral Models. Accepted December 2015. *Institute for Laboratory Animal Research Journal*.

Ham, Kathleen

Bertran J, Wavreille VA, **Ham K**, McLoughlin MA, Adin CA, "Suture-Free Ureterovesical Anastomosis Using a Microvascular System: Canine Cadaveric Study". *Veterinary Surgery*. Vol. 44, no. 6: 731-6. 2015.

Wavreille, Vincent; Adin, Christopher, A; Arango, Johnattan; **Ham, Kathleen, L**; Byron, Julie, K; McLoughlin, Mary, A, "Suture-Free Technique for Canine Ureteral Resection-Anastomosis Using a Microvascular Anastomotic System: A Cadaveric Study". *Veterinary Surgery*. Vol. 44, no. 1: 17-22. 2015.

Hill, Lawrence

Anderson KA, Lord LK, **Hill LN**, McCune S, "Fostering the Human-Animal Bond for Older Adults: Challenges and Opportunities". *Activities, Adaptation & Aging*. Vol. 39, 32-42. 2015.

Hoet, Armondo

Wang SH, Hines L, van Balen J, Mediavilla JR, Pan X, **Hoet AE**, Kreiswirth BN, Pancholi P, Stevenson KB. Molecular and clinical characteristics of hospital and community onset methicillin-resistant *Staphylococcus aureus* strains associated with bloodstream infections. *Journal of Clinical Microbiology*. 53(5): 1599-608. 2015.

Orellana RC, **Hoet AE**, Bell C, Kelley C, Lu B, Anderson SE, Stevenson KB. Methicillin-resistant *Staphylococcus aureus* in Ohio EMS Providers: A Statewide Cross-sectional Study. *Prehospital Emergency Care*. 30:1-7. 2015.

Inpanbutr, Nong

Middleton RP, Nelson R, Li Q, Blanton A, Labuda JA, Vitt J, Inpanbutr N. 1,25-Dihydroxyvitamin D3 and its analogues increase catalase at the mRNA, protein and activity level in a canine transitional carcinoma cell line. *Vet Comp Oncol*. 2015 Dec; 13(4):452-63.

Jackwood, Daral

Saif, Y. M.. **Jackwood, D. J.**, "Infectious Bursal Disease". h "Isolation, Characterization and Identification of Avian Pathogens". Louise Dufour-Zavala, Edited by: Louise Dufour-Zavala. (In Press).

Jackwood, D. J., "Infectious Bursal Disease".h "Manual of Poultry Diseases". 1ed. Vol. 1 Edited by: Brugere-Picoux, J., Vaillancourt, J-P.. Paris: Association francaise pour l'avancement des sciences (AFAS). 215-219. 2015.

Kieves, Nina

Slovak JE, **Kieves NR**, Haynes J., "A Foreign Body Induced Granuloma Extra-skeletal Osteosarcoma". *J Am Anim Hosp Assoc*. Vol. 51, no. 5: 315-9. 2015.

Makielski KM, **Kieves NR**, Gilmour LJ et al., "What Is Your Diagnosis? Severe spontaneous tension pneumothorax in a cat". *J Am Vet Med Assoc*. Vol. 246, no. 1: 55-7. 2015.

Kieves NR, MacKay CS, Adduci K, et al., "High Energy Focused Shock Wave Therapy Accelerates Bone Healing. A Blinded, Prospective, Randomized Canine Clinical Trial." *Vet Comp Orthop Traumatol*. Vol. 28, no. 6: 425-32. 2015.

Kisseberth, William

Clemente-Vicario F, Alvarez CE, Rowell JL, Roy S, London CA, **Kisseberth WC**, Lorch G. Human genetic relevance and potent antitumor activity of heat shock protein 90 inhibition in canine lung adenocarcinoma cell lines. *PLoS One*. 2015 Nov 11;10(11):e0142007.

Brown ME, Bear MD, Rosol TJ, Premanandan C, **Kisseberth WC**, London CA. Characterization of STAT3 expression, signaling and inhibition in feline oral squamous cell carcinoma. *BMC Vet Res*. 2015 Aug 14;11:206.

Knoblauch, Sue

Frost SH, Miller BW, Bäck TA, Santos EB, Hamlin DK, **Knoblauch SE**, Frayo SL, Kenoyer AL, Storb R, Press OW, Wilbur DS, Pagel JM, Sandmaier BM. α -Imaging Confirmed Efficient Targeting of CD45-Positive Cells After ²¹¹At-Radioimmunotherapy for Hematopoietic Cell Transplantation. *Journal of nuclear medicine : official publication, Society of Nuclear Medicine*. 2015; 56(11):1766-73. NIHMSID: NIHMS738834.

Fidel J, Kennedy KC, Dernell WS, Hansen S, Wiss V, Stroud MR, Molho JI, **Knoblauch SE**, Meganck J, Olson JM, Rice B, Parrish-Novak J. Preclinical Validation of the Utility of BLZ-100 in Providing Fluorescence Contrast for Imaging Spontaneous Solid Tumors. *Cancer research*. 2015; 75(20):4283-91. NIHMSID: NIHMS718012.

Jhingran A, Kasahara S, Shepardson KM, Junecko BA, Heung LJ, Kumasaka DK, **Knoblauch SE**, Lin X, Kazmierczak BI, Reinhart TA, Cramer RA, Hohl TM. Compartment-specific and sequential role of MyD88 and CARD9 in chemokine induction and innate defense during respiratory fungal infection. *PLoS pathogens*. 2015; 11(1):e1004589.

Morris SM, Carter KT, Baek JY, Koszarek A, Yeh MM, **Knoblauch SE**, Grady WM. TGF- β signaling alters the pattern of liver tumorigenesis induced by Pten inactivation. *Oncogene*. 2015; 34(25):3273-82.

Park J, Wicki J, **Knoblauch SE**, Chamberlain JS, Lee D. Multi-parametric MRI at 14T for muscular dystrophy mice treated with AAV vector-mediated gene therapy. *PLoS one*. 2015; 10(4):e0124914.

Lakritz, Jeffrey

J Lakritz, D Linden, DE Anderson, T Specht., "Plasma concentrations of fenbendazole (FBZ) and oxfendazole (OZF) in alpacas after single intravenous and oral dosing of FBZ (5 mg/kg)." *Veterinary Medicine Research and Reports*. Vol. 6, 71-81. 2015.

Suzuki K, Snmamori T, Sato A, Tukano K, **Lakritz J**, "Detecting endotoxin activity in bovine serum using an automated testing system". *Journal of Veterinary Medical Sciences*. Vol. 77, no. 8: 977-979. 2015.

Pentecost RL, Niehaus AJ, Werle N, **Lakritz J**, "Absorption and disposition of florfenicol after intravenous, intramuscular and subcutaneous dosing in alpacas." *Research in Veterinary Science*. Vol. 99, no. 4: 199-203. 2015.

Hall, MJ, Adin CA, Borin-Crivellenti S, Rudinsky AJ, Rajala-Schultz PJ, **Lakritz J**, Gilor C, "Pharmacology of the GLP-1 analog liraglutide in healthy cats". *Domestic Animal Endocrinology*. Vol. 51, 114-121. 2015.

Langston, Catherine

Langston, CE, Eatroff AE, "Chronic Kidney Disease". In "Small Animal Critical Care Medicine". 2nd ed. Edited by: Silverstein, DC, Hopper, K. St. Louis: Elsevier Saunders. 661-666. 2015.

Langston, CE, Eatroff AE, "Acute Kidney Injury". In "Small Animal Critical Care Medicine". 2nd ed. Edited by: Silverstein, DC, Hopper, K. St. Louis: Elsevier Saunders. 655-660. 2015.

Langston, C, Berent, A, "Nephrotoxicity, Drug-Induced". In "Blackwell's Five-Minute Veterinary Consult: Canine and Feline, 6th Edition". 6th ed. Edited by: Tilley, LS, Smith, FWK. Ames: Wiley Blackwell. 947-8. 2015.

Berent, A, **Langston, C**, "Cylindruria". In "Blackwell's Five-Minute Veterinary Consult: Canine and Feline, 6th Edition". 6th ed. Edited by: Tilley, LP, Smith, FWK. Ames: Wiley Blackwell. 347. 2015.

Berent, A, **Langston, C**, "Hydronephrosis". In "Blackwell's Five-Minute Veterinary Consult: Canine and Feline, 6th Edition". 6th ed. Edited by: Tilley, LS, Smith, FWK. Ames: Wiley Blackwell. 647-8. 2015.

Langston, C, Berent, A, "Renomegaly". In "Blackwell's Five-Minute Veterinary Consult: Canine and Feline, 6th Edition". 6th ed. Edited by: Tilley, LS, Smith, FWK. Ames: Wiley Blackwell. 1168-9. 2015.

Cook, AB; **Langston, CE**; Fischetti, AJ; Donovan, TA, "Imaging Diagnosis - Urinary Bladder Duplication in a Cat". Veterinary Radiology and Ultrasound. Vol. 56, no. 4: E48-E53. 2015.

Chalhoub, S, **Langston, CE**, "Anaemia of renal disease: pathophysiology and treatment updates". Companion Animal. Vol. 20, no. 8: 448-452. 2015.

Gest, J, **Langston, C**, Eatroff, A, "Iron Status of Cats with Chronic Kidney Disease". JOURNAL OF Veterinary Internal Medicine. Vol. 29, no. 6: 1488-93. 2015.

La Perle, Krista

Caserta E, Egriboz O, Wang H, Martin C, Koivisto C, Pecót T, Kladney RD, Shen C, Shim KS, Pham T, Karikomi MK, Mauntel MJ, Majumder S, Cuitino MC, Tang X, Srivastava A, Yu L, Wallace J, Mo X, Park M, Fernandez SA, Pilarski R, **La Perle KM**, Rosol TJ, Coppola V, Castrillon DH, Timmers C, Cohn DE, O'Malley DM, Backes F, Suarez AA, Goodfellow P, Chamberlin HM, Macrae E, Shapiro CL, Ostrowski MC, Leone G. Noncatalytic PTEN missense mutation predisposes to organ-selective cancer development in vivo. Genes & Development 15: 1707-1720, 2015, PMID 26302789.

Gressel KL, Duncan JF, Oberyszyn TM, **La Perle KM**, Everts HB. Endogenous retinoic acid required to maintain the epidermis following ultraviolet light exposure I SKH-1 hairless mice. Photochemistry and Photobiology 91: 901-908, 2015, PMID 25715879.

Lee, Chang Won

Elaish M, AliA, Xia M, Kang KI, Ibrahim M, Jiang X, **Lee CW**, "Immunogenicity and protective efficacy of M2e- expressing norovirus P particle vaccine in chickens". Vaccine. Vol. 33, 4901-9. 2015.

Ibrahim M, Sultan HA, Alaa GR, Kang KI, Arafa AS, Saif YM, **Lee CW**, "Development of broadly reactive H5N1 vaccine against different Egyptian H5N1 viruses". Vaccine. Vol. 33, no. 23: 2670-7. 2015.

Ngunjiri JM, Boyaka P, Ali A, Marcus PI, **Lee CW**, "In vivo assessment of NS1-truncated influenza virus with a novel SLSYSINWRH motif as a self-adjuvanting live attenuated vaccine". Plos ONE. Vol. 10, no. 3:e0118934. 2015.

Le Jeune, Jeff

Greig, J., Rajić, A., Young, I., Mascarenhas, M., Waddell, L. and **LeJeune, J.** (2015), A Scoping Review of the Role of Wildlife in the Transmission of Bacterial Pathogens and Antimicrobial Resistance to the Food Chain. *Zoonoses Public Health*, 62: 269–284.

Williams ML, **LeJeune JT**, McSpadden Gardener B. 2015. Soil conditions that can alter natural suppression of *Escherichia coli* O157:H7 in Ohio specialty crop soils. *Appl Environ Microbiol* 81:4634–4641.

Shenge, Kenneth C., et al. "Contamination of Tomatoes with Coliforms and *Escherichia coli* on Farms and in Markets of Northwest Nigeria." *Journal of Food Protection* 78.1 (2015): 57-64.

Medhanie, Genet A., et al. "Dairy cattle management factors that influence on-farm density of European starlings in Ohio, 2007–2009." *Preventive veterinary medicine* 120.2 (2015): 162-168.

Lerche, Phillip

Karrasch NM, **Lerche P**, Aarnes TK, Gardner HL, London CA. The effects of preoperative oral administration of carprofen or tramadol on postoperative analgesia in dogs undergoing cutaneous tumor removal. *Can Vet J.* 2015 Aug;56(8):817-22.

Karrasch NM, Hubbell JA, Aarnes TK, Bednarski RM, **Lerche P.** Comparison of cardiorespiratory variables in dorsally recumbent horses anesthetized with guaifenesin-ketamine-xylazine spontaneously breathing 50% or maximal oxygen concentrations. *Can Vet J.* 2015 Apr;56(4):387-92.

Lewis, Stephanie

Lewis, S., Hickman-Davis, JM, Bergdall, VK. "ACUC Considerations Regarding the Use of Virus-Induced Carcinogenesis and Oncolytic Viral Models." *LAR.* (Accepted, issue pending).

T Martin, S Balsler, G Young, **S Lewis**, "Effects of Nesting Substrate on Nest Complexity in the Deer Mouse (*Peromyscus maniculatus*)." *JAALAS.* (Accepted, issue pending).

Li, Jianrong

Hui Cai, Yu Zhang, Yuanmei Ma, Jing Sun, Xueya Liang, **Jianrong Li.** Zinc binding activity of human metapneumovirus M2-1 protein is indispensable for viral replication and pathogenesis in vivo. *Journal of Virology*, 2015, 89(12):6391-405.

Yuanmei Ma, Yu Zhang, Xueya Liang, Fangfei Lou, Michael Oglesbee, Steven Krakowka, **Jianrong Li.** Origin, evolution, and virulence of porcine deltacoronaviruses in the United States. 2015 *mBio* 6(2):e00064-15. doi:10.1128/mBio.00064-15.

Chang Liu #, Jian Tang #, Yuanmei Ma #, Xueya Liang, Yang Yang, Qianqian Qi, Guiqing Peng, Shibo Jiang, **Jianrong Li**, Lanying Du, Fang Li. Receptor usage and cell entry of porcine epidemic diarrhea coronavirus. *Journal of Virology*, 2015 Mar 18. 89(11):6121-5. # denotes equal contribution.

Erin DiCaprio E, Douglas Culbertson, **Jianrong Li.** Evidence of the internalization of animal caliciviruses via the root of growing strawberry plants and dissemination to the fruit. *Applied Environmental Microbiology.* 2015, 81(8):2727-34.

Fangfei Lou, Hudaa Neetoo, Haiqiang Chen, **Jianrong Li***. High hydrostatic pressure processing: a promising nonthermal technology to inactivate viruses in high-risk foods. *Annual Review of Food Science and Technology*, 2015, 6:389-409.

Ashley Predmore, Gabriel Sanglay, Erin DiCaprio, **Jianrong Li**, Robert Uribe, Ken Lee. Electron beam inactivation of Tulane virus on fresh produce, and mechanism of inactivation of human

norovirus surrogates by electron beam irradiation. *International Journal of Food Microbiology*. 2015, 198:28-36.

Erin DiCaprio, Anastasia Purgianto, **Jianrong Li**. The effect of abiotic and biotic stress on the internalization and dissemination of human norovirus surrogates in growing romaine lettuce. *Applied and Environmental Microbiology* 2015, 81(14):4791-800.

Ashley Predmore, Gabriel Sanglay G, **Jianrong Li**, Ken Lee. Control of human norovirus surrogates in fresh foods by gaseous ozone and a proposed mechanism of inactivation. *Food Microbiology* 2015, 50:118-25.

Pranay Agarwal, Jung Kyu Choi, Haishui Huang, Shuting Zhao, Jenna Dumbleton, **Jianrong Li**, Xiaoming He. A biomimetic core-shell platform for miniaturized 3D cell and tissue engineering. *Particle & Particle Systems Characterization*. 2015, 32, DOI: 10.1002/ppsc.201500025.

Elbashir Araud, Erin DiCaprio, Zhihong Yang, Xinhui Li, Fangfei Lou, John H. Hughes, Haiqiang Chen, and **Jianrong Li**. High-pressure inactivation of rotaviruses: role of treatment temperature and strain diversity in virus inactivation. *Applied Environmental Microbiology* 2015, 81(19):6669-6678.

Erin DiCaprio, Anastasia Purgianto, Yuanmei Ma, John Hughes, Xiangjun Dai, and **Jianrong Li**. Attachment and localization of human norovirus and animal caliciviruses in fresh produce. *International Journal of Food Microbiology*, 2015, 211:101-108.

Fangfei Lou, Mu Ye, Yuanmei Ma, Xinhui Li, Erin DiCaprio, Haiqiang Chen, Steven Krakowka, John Hughes, David Kingsley, and **Jianrong Li**. A gnotobiotic pig model for determining human norovirus inactivation by high-pressure processing. *Applied Environmental Microbiology* 2015, 81(19):6679-6687

Jia Wei Yeap, Simran Kaur, Fangfei Lou, Erin DiCaprio, Mark Morgan, Richard Linton, and **Jianrong Li**. Inactivation kinetics and mechanism of a human norovirus surrogate on stainless steel coupons using chlorine dioxide gas. *Applied Environmental Microbiology* 2015, 82(1):116-23.

London, Cheryl

Arendt ML, Melin M, Tonomura N, Koltookian M, Courtay-Cahen C, Flindall N, Bass J, Boerkamp K, Megquair K, Youell L, Murphy S, McCarthy C, **London C**, Rutteman GR, Starkey M, Lindblad-Toh K. Genome-Wide Association Study of Golden Retrievers Identifies Germ-Line Risk Factors Predisposing to Mast Cell Tumours. *PLoS Genet*. 2015 Nov 20;11(11):e1005647. doi: 10.1371/journal.pgen.1005647. eCollection 2015 Nov. PMID: 26588071.

Clemente-Vicario F, Alvarez CE, Rowell JL, Roy S, **London CA**, Kisseberth WC, Lorch G. Human Genetic Relevance and Potent Antitumor Activity of Heat Shock Protein 90 Inhibition in Canine Lung Adenocarcinoma Cell Lines. *PLoS One*. 2015 Nov 11;10(11):e0142007. doi: 10.1371/journal.pone.0142007. eCollection 2015. PMID:26560147.

Brown ME, Bear MD, Rosol TJ, Premanandan C, Kisseberth WC, **London CA**. Characterization of STAT3 expression, signaling and inhibition in feline oral squamous cell carcinoma. *BMC Vet Res*. 2015 Aug 14;11:206. doi: 10.1186/s12917-015-0505-7. PMID:26272737.

Karrasch NM, Lerche P, Aarnes TK, Gardner HL, **London CA**. The effects of preoperative oral administration of carprofen or tramadol on postoperative analgesia in dogs undergoing cutaneous tumor removal. *Can Vet J*. 2015 Aug;56(8):817-22. PMID:26246627.

Gardner HL, **London CA**, Portela RA, Nguyen S, Rosenberg MP, Klein MK, Clifford C, Thamm DH, Vail DM, Bergman P, Crawford-Jakubiak M, Henry C, Locke J, Garrett LD. Maintenance therapy with toceranib following doxorubicin-based chemotherapy for canine splenic hemangiosarcoma. *BMC Vet Res*. 2015 Jun 11;11:131. doi: 10.1186/s12917-015-0446-1. PMID:26062540.

London CA, Gardner HL, Mathie T, Stingle N, Portela R, Pennell ML, Clifford CA, Rosenberg MP, Vail DM, Williams LE, Cronin KL, Wilson-Robles H, Borgatti A, Henry CJ, Bailey DB, Locke J, Northrup NC, Crawford-Jakubiak M, Gill VL, Klein MK, Ruslander DM, Thamm DH, Phillips B, Post G. Impact of Toceranib/Piroxicam/Cyclophosphamide Maintenance Therapy on Outcome of Dogs

with Appendicular Osteosarcoma following Amputation and Carboplatin Chemotherapy: A Multi-Institutional Study. PLoS One. 2015 Apr 29;10(4):e0124889. doi: 10.1371/journal.pone.0124889. eCollection 2015. PMID: 25923466.

Lorch, Gwendolen

Hnot ML, Cole LK, **Lorch G**, Rajala-Schultz PJ, Papich MG, "Effect of feeding on the pharmacokinetics of oral minocycline in healthy research dogs". Veterinary Dermatology. Vol. 26, no. 6: 399-405. 2015.

Clemente-Vicario F, Alvarez CE, Rowell JL, Roy S, London CA, Kisseberth WC, **Lorch G**, "Human genetic relevance and potent antitumor activity of heat shock protein 90 inhibition in canine lung adenocarcinoma cell lines". PLoS ONE. Vol. 10, no. 11: e0142007. 2015.

Hnot ML, Cole LK, **Lorch G**, Papich MG, Rajala-Schultz PJ, Daniels JB, "Evaluation of canine-specific minocycline and doxycycline susceptibility breakpoints for meticillin-resistant Staphylococcus pseudintermedius isolates from dogs". Veterinary Dermatology. Vol. 26, no. 5: 334-e71. 2015.

Marsh, Antoinette

2015 **Marsh, A.E.**, S. Babcock. Legal implications of zoonotic disease transmission for Veterinary practices. Veterinary Clinics of North America Small Animal Practice. 45:393-408.

Dryburgh, E., **A. E. Marsh**, J. P. Dubey, D. K. Howe, S. M. Reed, K. E. Bolten, W. Pei, and W. J. Saville. Sarcocyst development in raccoons (*Procyon lotor*) inoculated with different strains of *Sarcocystis neurona* culture-derived merozoites. Journal of Parasitology, 2015;101:462-467.

Dubey, J.P., D.K. Howe, M. Furr, W.J. Saville, **A.E. Marsh**, S.M. Reed, and M.E. Grigg. An update on *Sarcocystis neurona* infections in animals and equine protozoa! myeloencephalitis (EPM). Veterinary Parasitology, 2015;209:1-42.

Masty, Jerry

Equine Neurology, 2nd edition by Furr and Reed, published by Wiley Blackwell, 2015 Chapter 1: Overview of Neuroanatomy by Masty and Hahn.

McLoughlin, Mary

Wavrielle V, Adin CA, Arango J, Ham KL, Byron JA, **McLoughlin MA**. Suture- Free technique for ureteral resection-anastomosis using a microvascular anastomotic system: a cadaveric study. Vet Surg 2015 Jan;44(1):17-22.

Bertran J, Wavrielle VA, Ham KL, **McLoughlin MA**, Adin CA. Suture- Free Ureterovesical Anastomosis using a microvascular anastomotic system: a cadaveric study. Vet Surg. 2015 Aug 44(6):731-736.

McLoughlin MA, Scansen B. Surgical and Interventional Procedures of the Upper Urinary Tract. BSAVA Manual of Canine and Feline Abdominal Surgery. 2015.

Metzler, Anne

Consulting Co-Editor (Co-Editor, Dr. Ellen Belknap) – Diseases of the Eye. *Smith's Large Animal Internal Medicine*, 5th Edition. Smith BP, Ed. Elsevier Publishing: St. Louis, 2015.

Gemensky-Metzler AJ. Ocular Parasites. Diseases of the Eye. In: Smith BP, ed. *Smith's Large Animal Internal Medicine*, 5th ed. St. Louis: Elsevier Mosby; 2015: 1182-1185.

Chandler H, Gervais KJ, Lutz EA, Curto EM, Matusow RB, Wilkie DA, **Gemensky-Metzler AJ**. Cyclosporine prevents *ex vivo* PCO formation through induction of autophagy-mediated cell death. *Exp Eye Res* 2015;134:63-72. Epub March 31, 2015.

Gemensky-Metzler AJ, Sheahan JE, Rajala-Schultz P, Wilkie DA, Harrington J. Retrospective study of the prevalence of keratoconjunctivitis sicca (KCS) in diabetic and non-diabetic dogs after phacoemulsification. *Veterinary Ophthalmol* 2015;18(6):472-480. Epub Nov 27, 2014. VOP12238.

Wilkie DA, Stone Hoy S, **Gemensky-Metzler AJ**, Colitz CM. Safety study of capsular tension ring use in canine phacoemulsification and IOL implantation. *Veterinary Ophthalmol* 2015;18(5):409-415. Epub Oct 17, 2014. VOP12232.

Moore, Sarah

Moore SA, Oglesbee MJ, "Spinal cord ependymal responses to naturally occurring traumatic spinal cord injury in dogs." *Veterinary Pathology*. Vol. 52, no. 6: 1108-17. 2015.

Song RB, Basso DM, da Costa RC, Fisher LC, Mo X, **Moore SA**, "Von Frey anesthesiometry to assess sensory impairment after acute spinal cord injury caused by thoracolumbar intervertebral disc extrusion in dogs". *The Veterinary Journal*. Vol. 15, 319-326. 2015.

Ammirati M, Lamki T, Chitnis G, Yang X, Russell D, Coble D, Kaur B, Knopp M, **Moore S**, Ziaie B., "In vivo brain electrophoresis – a novel method for chemotherapy of CNS diseases". *Expert Opinion On Drug Delivery*. Vol. Epub, 1-8. 2015.

Martin-Vaquero P. da Costa RC, Allen MJ, **Moore SA**, Kiersey JK, Green KB, "Proteomic Analysis of Cerebrospinal Fluid in Canine Cervical Spondylomyelopathy". *Spine*. Vol. Epub, NA. 2015.

Mudge, Margaret

Mudge MC, "Blood Transfusions". In "Equine Fluid Therapy". Edited by:Fielding L, Magdesian G. Ames, IA: Wiley Blackwell. 2015.

Bonilla AG, Scansen BA, Hurcombe SD, **Mudge MC**, "Potential for iatrogenic coil embolization of the caudal cerebellar artery during treatment of internal carotid artery bifurcation in two horses with guttural pouch mycosis". *J Am Vet Med Assoc*. Vol. 247, no. 12: 1427-1432. 2015.

Mudge MC, "Options for reducing allogeneic blood transfusions". *Equine Veterinary Education*. Vol. 27, 300-301. 2015.

Niehaus, Andy

Pentecost,Rebecca,L; **Niehaus,Andrew,J**; Werle,Nicholas; Lakritz,Jeffrey, "Absorption and disposition of florfenicol after intravenous, intramuscular and subcutaneous dosing in alpacas". *RESEARCH IN VETERINARY SCIENCE*. Vol. 99, 199-203. 2015.

Hartnack, AK, **Niehaus, AJ**, Rousseau, M, Pentecost, RL, Anderson DE, Miesner, MD, "Retrospective study of cattle having rumenotomy or rumenostomy: Indications and Factors Relating to Outcome (95 cases: 1999-2011)". *JAVMA*. Vol. 247, no. 6: 659-664. 2015.

Kimberly A. Thompson, **Andrew Niehaus**, Wynona Shellabarger, Sarah Depenbrock, Dalen Agnew, "Antemortum diagnosis of cystic endometrial hyperplasia and successful ovariohysterectomy in an African warthog (*Pharacochoerus Africanus*)". *Journal of Zoo and Wildlife Medicine*. Vol. 46, no. 4: 904-908. 2015.

Niewiesk, Stefan

Cyrille Mathieu, Devra Huey, Eric Jurgens, Jeremy Welsch, Ilaria DeVito, Aparna Talekar, Branka Horvat, Stefan **Niewiesk**, Anne Moscona, and Matteo Porotto (2015). Prevention of Measles Infection by intranasal delivery of fusion inhibitor peptides. *Journal of Virology*, 89:1143-55. PMID: PMC4300632.

Randall S. Carpenter, Kristina A. Kigerl, Jessica M. Marbourg, Andrew Gaudet, Devra Huey, Stefan **Niewiesk**, Phillip G. Popovich (2015) Traumatic spinal cord injury in mice with human immune systems. *Experimental Neurology*, 271:432-44. PMID: PMC4586484.

Fichtner AS, Paletta D, Starick L, Schumann RF, **Niewiesk S**, Herrmann T. (2015) Function and expression of CD1d and iNKT T cell receptor in the cotton rat (*Sigmodon hispidus*). *Immunology*, 146:618-629. PMID: PMC4693900.

Oglesbee, Michael

Berman-Booty, L.D., Thomas-Ahner, J.M., Bolon, B., **Oglesbee, M.J.**, Clinton, S.K., Kulp, S.K., Chen, C.S., LaPerle, K.M. (2015). Extra-prostatic transgene-associated neoplastic lesions in transgenic adenocarcinoma of the mouse prostate (TRAMP) mice. *Toxicologic Pathology* 43(2):186-97. PMID: PMC4201646.

Moore, S.A., **Oglesbee, M.** (2015). Spinal cord ependymal responses to naturally occurring traumatic spinal cord injury in dogs. *Veterinary Pathology* 52(6):1108-1117.

Ma, Y., Zhang, Y., Liang, X., Lou, F., **Oglesbee, M.**, Krakowka, S. Li, J. (2015). Origin, evolution and virulence of a novel porcine deltacoronavirus in the United States. *mBio* 6(2): e00064-15.

Chawla, P., Cook, L., Himmell, L., Zekas, L., **Oglesbee, M.** (2015). Coextensive meningioma and cholesterol granuloma in the forebrain of a cat. *Journal of Veterinary Internal Medicine* 29(6):1638-1642. PMID: PMC4852139.

Parker, Valerie

Parker VJ: Ptyalism. In: Tilley LP and Smith FWK, eds. *Five minute veterinary consult: Canine and feline*. 6th ed. Ames: Wiley-Blackwell, 2015: 1124-1125.

de Brito Galvao JF, Chew DJ, **Parker VJ**. Management of idiopathic hypercalcemia. In: Little SE, ed. *August's Consultations in feline internal medicine*. 7th ed. St. Louis: Elsevier, 2015: 209-220.

Parker VJ, Gilor C, Chew DJ. Feline hyperparathyroidism: Pathophysiology, diagnosis and treatment of primary and secondary disease. *J Feline Med Surg* 2015;17:427-439.

Parker VJ. Nutritional management of chronic enteropathies. *Today's Veterinary Practice* 2015;5:44-50.

Broome MR, Peterson ME, Kemppainen RJ, **Parker VJ**, Richter KP. Exogenous thyrotoxicosis in dogs attributable to consumption of all-meat commercial dog food or treats containing excessive thyroid hormone: 14 cases. *J Am Vet Med Assoc* 2015;246(1):105-111.

Parker VJ, Gilor C, Chew DJ. Feline hyperparathyroidism: Pathophysiology, diagnosis and treatment of primary and secondary disease. *J Feline Med Surg* 2015;17:427-439.

Premanadan, Christopher

Kohnken R, Durham JA, **Premanandan C**, Scansen BA. Aortic chondroid neoplasia in two Labrador Retriever dogs. *J Vet Cardiol*. 2015 Dec;17(4):314-20. doi: 10.1016/j.jvc.2015.08.005.

Brown ME, Bear MD, Rosol TJ, **Premanandan C**, Kisseberth WC, London CA . Characterization of STAT3 expression, signaling and inhibition in feline oral squamous cell carcinoma. BMC Vet Res. 2015 Aug 14;11:206.

Harstine BR, Maquivar M, Helser LA, Utt MD, **Premanandan C**, DeJarnette JM, Day ML. Effects of dietary energy on sexual maturation and sperm production in Holstein bulls. J Anim Sci. 2015 Jun;93(6):2759-66. doi: 10.2527/jas.2015-8952.

Bowman AS, Nolting JM, Nelson SW, Bliss N, Stull JW, Wang Q, **Premanandan C**. Effects of disinfection on the molecular detection of porcine epidemic diarrhea virus. Vet Microbiol. 2015 Sep 30;179(3-4):213-8. doi: 10.1016/j.vetmic.2015.05.027. Epub 2015 Jun 4.

Proudfoot, Katy

Proudfoot, KL, Habing, GG, "Social stress as a cause of diseases in farm animals: Current knowledge and future directions". The Veterinary Journal. Vol. 206, no. 1: 15-21. (2015).

Radin, Judith

Wellman ML, **Radin MJ**. Urinalysis in small animals. 2015. NAVC Clinician's Brief. <http://www.cliniciansbrief.com/article/image-gallery-urinalysis-small-animals>.

Henderson SE, Clark ES, Stromberg PC, **Radin MJ**, Wellman ML. 2015. Pathology in Practice- Canine Distemper Viral Inclusions. J Am Vet Med Assoc. 247:1375-1377.

Rajashekara, Gireesh

Sukumar Kandasamy. Anand Kumar, **G Rajashekara**, Anastasia Vlasova, Linda Saif., "Probiotics for Immunomodulation and treatment of Immunological disorders in children: Evaluation in a germ free animal model.". In "Probiotics in Children". Edited by: Marco Manfredi and Gian Luigi de'Angelis. New York: Nova Science Publishers.2015.

Kashoma IP, Kassem II, Julius John J, Kessy BMs Gebreyes W, Kazwala RR, and **Rajashekara G**. "Prevalence and Antibiotic Resistance of Campylobacter Isolated from Dressed Cattle Carcasses and Raw Milk in Tanzania". Microbial Drug Resistance. Vol. 22, no. 1: 40-52. 2015.

Chandrashekhar K, Gangaiah DI Mimbela R, Kassem II, Jeon B and **Rajashekara G**., "Transducer like proteins of Campylobacter jejuni 81-176: role in chemotaxis and colonization of the chicken gastrointestinal tract". Front. Cell. Infect. Microbiol. Vol. May 201:1-10. 2015.

Xu X, Kumar A. Deblais L, Pina-Mimbela R, Nistow C. Fuchs JR Miller SAI **Rajashekara G**., "Discovery of novel small molecule modulators of *Citrobacter michiganensis* subsp. *michiganensis*.". Front Microbiol. Vol. 6, el 127. 2015.

Kashoma IP, Kassem II, Kumar A, Kessy 8M, Gebreyes W, Kazwala RRV **Rajashekara G**., "Antimicrobial Resistance and Genotypic Diversity of Campylobacter Isolated from Pigst Dairy, and Beef Cattle in Tanzania.". Front Microbiol. Vol. 6, el 240. 2015.

Chandrashekhar K, Kassem II, Nislow CT Gangaiah D, Candetero-Rueda RAI **Rajashekara G**., "Transcriptome analysis of Campylobacter jejuni polyphosphate kinase (ppk1 and ppk2) Virulence. Vol. 6, no. 8: 814-8. 2015.

Pina-Mimbela R, Madrid JA Kumar A, Torrettes JB, **Rajashekara G**. "Polyphosphate kinases modulate Campylobacter jejuni outer membrane constituents and alter its capacity to invade and survive in intestinal epithelial cells in vitro.". Emerg Microbes Infect Vol 4, no, e77: e77 2015.

Sahin O, Kassem II, Shen Z, Lin J, **Rajashekara G**, and Zhang Q, "Campylobacter in Poultry: Ecology and Potential Interventions". *Avian Diseases*. Vol. 59, no. 2: 185-200. (2015).

Renukaradhya, Gourapura,

Thomas, M, Wang, Z, Sreenivasan, CC, Hause, BM, **Renukaradhya, GJ**, Li, F, Francis, DH, Kaushik, RS, Khatri, M., "Poly I:C adjuvanted inactivated swine influenza vaccine induces heterologous protective immunity in pigs". *Vaccine*. Vol. 33, no. 4: 542-548. 2015.

Ouyang, K, Shyu, D-L, Dhakal, S, Hiremath, J, Binjawadagi, B, Yashavanth, SL, Guo, R, Ransburgh, R, Bondra, KM, Gauger, P, Zhang, J, Specht, T, Gilbertie, A, Minton, W, Fang, Y, and **Renukaradhya, GJ.**, "Evaluation of humoral immune status in porcine epidemic diarrhea virus (PEDV) infected sows under field conditions". *Veterinary Research*. Vol. 46, no. 1: 140. 2015.

Renukaradhya, GJ, Meng, X-J, Calvert, JG, Roof, M, and Lager, KM., "Inactivated and subunit vaccines against porcine reproductive and respiratory syndrome: Current status and future direction". Review of Inactivated and subunit vaccines against porcine reproductive and respiratory syndrome, by Veterinary vaccine researchers. *Vaccine*. Vol. 33, no. 27: 3065-3072. (2015).

Renukaradhya, GJ, Meng, X-J, Calvert, JG, Roof, M, and Lager, KM., "Live porcine reproductive and respiratory syndrome virus-based vaccines: current status and future direction". Review of Live porcine reproductive and respiratory syndrome virus candidate vaccines, by Veterinary vaccine researchers. *Vaccine*. Vol. 33, no. 33: 4069- 4080. (2015).

Lunney, JK, Fang, Y, Ladinig, A, Chen, N, Li, Y, Rowland, B, and **Renukaradhya, GJ.**, "Porcine reproductive and respiratory syndrome virus (PRRSV): Pathogenesis and Interaction with the Immune System". Review of PRRSV Pathogenesis and Interaction with the Immune System, by Particulate vaccine delivery researchers. *Annual Review of Animal Biosciences*. Vol. 14, 25. (2015).

Renukaradhya, GJ, Narasimhan, B, and Mallapragada, SK, "Respiratory nanoparticle-based vaccines and challenges associated with animal models and translation". Review of Nanoparticle based vaccine delivery system in animal models, by Particulate vaccine delivery researchers. *Journal of Control Release*. Vol. 219, 622-631. (2015).

Rikihisa, Yasuko

Kumar, D.M., M. Lin, Q. Xiong, M. J. Webber, C. Kural, and **Y. Rikihisa**. (2015) EtpE Binding to DNase X Induces Ehrlichial Entry via CD147 and hnRNP-K Recruitment, Followed by Mobilization of N-WASP and Actin. *mBio*. 6: e01541-15.

Rikihisa, Y. (2015) Molecular Pathogenesis of Ehrlichia chaffeensis Infection. *Ann. Rev. Microbiol.* 69: 283-304.

Ge, Yan, H. Yin, **Y. Rikihisa**, W. Pan, and H. Yin. (2015) Molecular detection of tick- borne pathogens in Rickettsiales in goats and sheep from southeastern China. *Vector Borne and Zoonotic Dis*. In press.

Klionsky, D.J., ---H. Niu, **Y. Rikihisa**----(many authors) (2015) Guidelines for the Use and Interpretation of Assays for Monitoring Autophagy (2nd edition) *Autophagy*. In press.

Harasawa, R., H. Fujita, T. Kadosaka, S. Ando, and **Y. Rikihisa** (2015) Proposal for 'Candidatus Mycoplasma haemomuris subsp. musculi' in mice, and 'Candidatus Mycoplasma haemomuris subsp. ratti' in rats. *Int. J. Syst. Evol. Microbiol.* 65: 734-737.

Rosol, Thomas

Caserta E, Egriboz O, Martin CK, Wang H, Pecot T, Kladney R, Shen C, Pham T, Karikomi MK, Mauntel MJ, Majumder S, Cuitino MC, Yu L, Wallace J, Mo X, Hallett M, Park M, Fernandez SA, Pilarski R, La Perle KMD, **Rosol TJ**, Cohn D, O'Malley D, Goodfellow P, Chamberlin H, McCrae E, Shapiro C, Ostrowski MC, and Leone G. Knockin mice with a C2 domain missense mutation exposes an Akt-independent tumor suppressor role of PTEN. *Genes and Development*, 29(16): DOI: 10.1101/gad.262568.115, 2015.

Brown ME, Bear MD, **Rosol TJ**, Premanandan C, Kisseberth WC, London CA. Characterization of STAT3 expression, signaling and inhibition in feline oral squamous cell carcinoma. *BMC Veterinary Research*, published on-line, DOI 10.1186/s12917-015-0505-7, 2015.

Hildreth III BE, **Rosol TJ**, Toribio RE. PTHrP 1-34 enhances engraftment and bone mass in ectopically transplanted vertebrae (vossicle model). *Transgenic Research*, DOI 10.1007/s11248-015-9901-9, 2015.

Simmons JK, Dirksen WP, Hildreth III BE, Supsavhad W, Elshafae SM, Toribio RE, **Rosol TJ**. Animal Models of Bone Metastasis. *Veterinary Pathology*, 52(5):827-841, 2015.

Vahle JL, Byrd RA, Blackbourne JL, Martin JA, Sorden SD, Ryan T, Pienkowski T, **Rosol TJ**, Snyder P and Klöppel G. Effects of dulaglutide, a long-acting GLP-1 receptor agonist, on the exocrine pancreas of cynomolgus monkeys. *Journal of Toxicologic Pathology*, 43(7):1004-1014, 2015.

Byrd RA, Sorden SD, Ryan T, Pienkowski T, LaRock R, Wijsman J, Smith H, Blackbourne JL, **Rosol TJ**, Long G, Martin JA, Vahle JL. Chronic toxicity and carcinogenicity studies of the long-acting GLP-1 receptor agonist dulaglutide in rodents. *Endocrinology*, 156(7): 2417-2428, 2015.

Vahle JL, Byrd RA, Blackbourne JL, Martin JA, Sorden SD, Ryan T, Pienkowski T, Wijsman J, Smith HW, **Rosol TJ**. Effects of dulaglutide on thyroid C cells and serum calcitonin in male monkeys. *Endocrinology*, 156(7), 2409-2416, 2015.

Li H, He G, Yao H, Song L, Zeng L, Liu J, Chen Y, **Rosol TJ**, Deng X. Transforming growth factor- β induces degradation of parathyroid hormone-related protein through the ubiquitin-proteasome system in hepatocellular carcinoma cells. *Journal of Cancer*, 6(6):511-518, 2015.

Parviainen S, Autio K, Vähä-Koskela M, Guse K, Pesonen S, **Rosol TJ**, Zhao F, Hemminki A. Incomplete but infectious vaccinia virions produced in the absence of oncolysis in feline SCCF1 cells. *PLOS ONE*, 10(3):e0120496. DOI:10.1371/journal.pone.0120496, 2015.

Kamr A, Dembek K, Reed S, Slovis N, Zaghawa A, **Rosol TJ**, Toribio RE. Vitamin D metabolites and their association with calcium, phosphorus, and PTH concentrations, severity of illness, and mortality in hospitalized equine neonates. *PLOS ONE*, 10(6):e0127684. DOI:10.1371/journal.pone.0127684, 2015.

Elmore SA, Cora MC, Gruebbel MM, Hayes SA, Hoane JS, Koizumi H, Peters R, **Rosol TJ**, Singh BP, Szabo KA. Proceedings of the 2014 National Toxicology Program satellite symposium. *Toxicologic Pathology*, Nov. 9 ePub, 43(1):10-40, 2015.

Rudinsky, Adam

Rudinsky,A,J; Adin,C,A; Borin-Crivellenti,S; Rajala-Schultz,P; Hall,M,J; Gilor,C, "Pharmacology of the glucagon-like peptide-1 analog exenatide extended-release in healthy cats". *Domestic Animals Endocrinology*. Vol. 51, 78-85. 2015.

Hall,M,J; Adin,C,A; Borin-Crivellenti,S; **Rudinsky,A,J**; Rajala-Schultz,P; Lakritz,J; Gilor,C, "Pharmacokinetics and pharmacodynamics of the glucagon-like peptide-1 analog liraglutide in healthy cats". *Domestic Animals Endocrinology*. Vol. 51, 114-121. 2015.

Rudinsky,A,J; Clark,E,S; Russell,D,S; Gilor,C, "Adrenal insufficiency secondary to lymphocytic panhypophysitis in a cat". Australian Veterinary Journal. Vol. 93, no. 9: 327-331. 2015.

Runcan, Erin

Runcan, EE, Smith AD, Roff SR, et al., "Theriogenology Question of the Month". Journal of the American Veterinary Medical Association. Vol. 247, no. 12: 1369-1371. 2015.

Saif, Linda

Hodgins, D.C., Chattha, K.S., Vlasova, A.N., Parreno, V., Corbeil, L.B., Renukaradhyam, G.J., **Saif, L.J.**, "Mucosal Veterinary Vaccines: Comparative Vaccinology". In "Mucosal Immunology (4th edition)". New York: Academic Saif - Page 4 of 13 Press, Elsevier. 2015.

Chattha, KS, Roth, KA, Vlasova, A, **Saif, LJ**, "Strategies for design and application of enteric viral vaccines". In "Annual Reviews Animal Biosciences". Vol. 3, 6.1-6.21. 2015.

Kandasamy, S, Kumar, A, Rajashekara, G, Vlasova, A, **Saif, LJ**, "Probiotics for immunomodulation and treatment of immunological disorders in children: Evaluation in a gnotobiotic animal model". In "Probiotics in Children". Edited by:Manfredi,M, Gigi de'Angelis, G.

Vlasova, AN, Kandasamy, S, **Saif, LJ**, "Gnotobiotic neonatal pig model of rotavirus infection and disease". In "Viral Gastroenteritis: Molecular Epidemiology and Pathogenesis". Edited by:Svensson, Desselberger, Estes, Greenberg.

Annamalai, T., **L.J. Saif** Z. Lu, and K. Jung, "Age-dependent variation in innate immune responses to porcine epidemic diarrhea virus infection in suckling versus weaned pigs". Vet Immunol and Immunopath. Vol. 168, 193-202. 2015.

Esseili, M., Gao, X., Tegtmeier. S., **Saif, L.**, Wang, Q., "Abiotic stress and Phyllosphere Bacteria Influence the Survival of Human Norovirus and its surrogates on Preharvest Leafy Greens". Appl. Environ. Microbiol.. Vol. 82, 352-363. 2015.

Lu, Z. M. Yokoyama, N. Chen, T. Oka, K. Jung, K.O. Chang, T. Annamalai, Q. Wang and **L.J. Saif**, "Mechanism of Cell Culture Adaptation of an Enteric Calicivirus, the Porcine Sapovirus Cowden Strain.". J. Virol. Vol. 90, 1345-58. 2015.

Khatri, M., T.D. O'Brien, K.S. Chattha, and **L.J. Saif**, "Porcine lung mesenchymal cells possess differentiation and immunoregulatory properties". Stem Cell Res Ther. Vol. 6, 222. 2015.

Farkas, T., Singh, A., Guyader, F., Rosa, G., **Saif, L.**, & Mcneal, M., "Multiplex real-time RT-PCR for the simultaneous detection and quantification of GI, GII and GIV noroviruses". J Virol Methods. Vol. 223, 109-114. 2015.

Esseili, M., **L.J. Saif**, T. Farkas and Q. Wang, "Feline calicivirus, murine norovirus, porcine sapovirus, and Tulane virus survival on postharvest lettuce". Appl. Environ. Microbiol.. Vol. 81, 5085-92. 2015.

Esseili,Malak,A; Chin,Ashlina; **Saif,Linda**; Miller,Sally,A; Qu,Feng; Ivey,Melanie, L,Lewis; Wang,Qiuhong, "Postharvest Survival of Porcine Sapovirus, a Human Norovirus Surrogate, on Phytopathogen-Infected Leafy Greens". JOURNAL OF FOOD PROTECTION. Vol. 78, no. 8: 1472-1480. 2015.

Martella,Vito; Pinto,Pierfrancesco; Lorusso,Eleonora; Di Martino,Barbara; Wang,Qiuhong; Larocca,Vittorio; Cavalli,Alessandra; Camero,Michele; Decaro,Nicola; Banyai,Krisztian; **Saif,Linda,J**; Buonavoglia,Canio, "Detection and Full-Length Genome Characterization of Novel Canine Vesiviruses". Emerging Infectious Diseases. Vol. 21, no. 8: 1433-1436. 2015.

- Jung, Kwonil; Annamalai, Thavamathi; Lu, Zhongyan; **Saif, Linda, J.**, "Comparative pathogenesis of US porcine epidemic diarrhea virus (PEDV) strain PC21A in conventional 9-day-old nursing piglets vs. 26-day-old weaned pigs". *Veterinary Microbiology*. Vol. 178, no. 1-2: 31-40. 2015.
- Jung, Kwonil; Eyerly, Bryan; Annamalai, Thavamathi; Lu, Zhongyan; **Saif, Linda, J.**, "Structural alteration of tight and adherens junctions in villous and crypt epithelium of the small and large intestine of conventional nursing piglets infected with porcine epidemic diarrhea virus". *Veterinary Microbiology*. Vol. 177, no. 3-4: 373-378. 2015.
- Hu, Hui; Jung, Kwonil; Vlasova, Anastasia, N; Chepngeno, Juliet; Lu, Zhongyan; Wang, Qihong; **Saif, Linda, J.**, "Isolation and Characterization of Porcine Deltacoronavirus from Pigs with Diarrhea in the United States". *J of Clinical Microbiology*. Vol. 53, no. 5: 1537-1548. 2015.
- Jung, K., H. Hu, B. Eyerly, Z. Lu, J. Chepngeno, and **L.J. Saif.**, "Pathogenicity of 2 porcine deltacoronavirus strains in gnotobiotic pigs". *Emerg Infect Dis.* Vol. 21, 650-654. 2015.
- Jung, Kwonil; **Saif, Linda, J.**, "Porcine epidemic diarrhea virus infection: Etiology, epidemiology, pathogenesis and immunoprophylaxis". *Veterinary Journal*. Vol. 204, no. 2: 134-143. 2015.
- Lin, Chun-Ming; Gao, Xiang; Oka, Tomoichiro; Vlasova, Anastasia, N; Esseili, Malak, A; Wang, Qihong; **Saif, Linda, J.**, "Antigenic Relationships among Porcine Epidemic Diarrhea Virus and Transmissible Gastroenteritis Virus Strains". *J Virology*. Vol. 89, no. 6: 3332-3342. 2015.
- Liu, X., C.M. Lin, A. Thavamathi, X. Gao, Z. Lu, M.A. Esseili, K. Jung, M. El-Tholoth, **L.J. Saif** and Q. Wang., "Determination of the infectious titer and virulence of an original US porcine epidemic diarrhea virus PC22A strain". *Veterinary Research*. Vol. 89, 3332-3342. 2015.
- Amimo, J.O., J.O. Junga, W.O. Ogara, A.N. Vlasova, M.N. Njahira, S. Maina, E.A. Okoth, R.P. Bishop, **L.J. Saif**, A. Djikeng, "Detection and genetic characterization of porcine group A rotaviruses in asymptomatic pigs in smallholder farms in East Africa, Predominance of P[8] genotype resembling human strains". *Vet Microbiol*. Vol. 175, 175-210. 2015.
- Amimo, J.O; Junga, J.O; Ogara, W.O; Vlasova, A.N; Njahira, M.N; Maina, S; Okoth, E.A; Bishop, R.P; **Saif, L.J;** Djikeng, A, "Detection and genetic characterization of porcine group A rotaviruses in asymptomatic pigs in smallholder farms in East Africa: Predominance of P[8] genotype resembling human strains". *Veterinary Microbiology*. Vol. 175, no. 2-4: 195-210. 2015.
- Esseili, M., Gao, X., Tegtmeier, S., **Saif, L.**, Wang, Q, "Abiotic stress and Phyllosphere Bacteria Influence the Survival of Human Norovirus and its surrogates on Preharvest Leafy Greens". *Appl. Environ. Microbiol*. Vol. 82, 352-363. 2015.
- Lin, C.M., T. Annamalai, X. Liu, X. Gao, Z. Lu, M. El-Tholoth, H. Hu, **L.J. Saif**, Q. Wang, "Experimental infection of a US spike-insertion deletion porcine epidemic diarrhea virus (PEDV) in conventional nursing piglets and cross-protection to original US PEDV infection". *Vet. Res.* Vol. 46, 134. 2015.
- Oka, Tomoichiro; Wang, Qihong; Katayama, Kazuhiko; **Saif, Linda, J.**, "Comprehensive Review of Human Sapoviruses". *Clinical Microbiology Reviews*. Vol. 28, no. 1: 32-53. 2015.
- Shao, L., Fischer, D., Kandasamy, S., Rauf, A., Langel, S., Wentworth, D. Stucker, K., Halpin, R., Lam, H., Marthaler, D., **Saif, L.** Vlasova, A., "Comparative in vitro and in vivo studies of porcine rotavirus G9P[13] and human rotavirus Wa G1P[8]". *J Virol*. Vol. 90, 142-51. 2015.
- Bok, M., S. Miñoa, D. Rodriguez, A. Badaracco, I. Nuñesc, S.P. Souzac, G. Bilbaod, V. Parreno, **L.J. Saif.** 2015. "Molecular and antigenic characterization of bovine Coronavirus circulating in Argentinean cattle during 1994–2010". *Veterinary Microbiology*. 181:221-29.

Hu, H., K. Jung, A.N. Vlasova, J. Chepngeno, Z. Lu, Q. Wang and **L.J. Saif**, "Isolation and characterization of porcine deltacoronavirus from pigs with diarrhea in the United States". J. Clin. Microbiol. (In Press).

Kandasamy, S., A.N. Vlasova, D. Fischer, A. Kumar, K.S. Chattha, A. Rauf, L. Shao, S. Neal, G. Rajashekara, and **L.J. Saif**., "Differential effects of Escherichia coli Nissle and Lactobacillus rhamnosus strain GG on human rotavirus binding, infection, and B cell immunity". Journal of Immunology. (In Press).

Lin, C.M., X. Gao, T. Oka, A.N. Vlasova, M.A. Esseili, Q. Wang, and **L.J. Saif**, "Antigenic relationships among porcine epidemic diarrhea virus and transmissible gastroenteritis virus strains". Journal of Virology. (In Press).

Saville, William

E.L. Dryburgh, A.E. Marsh, J.P. Dubey, D.K. Howe, S.M. Reed, K.E. Bolten, W. Pei, **W.J. Saville**. Experimental inoculation of raccoons (*Procyon lotor*) with different strains of *Sarcocystis neurona* merozoites. Journal of Parasitology, 101:462-467.

J. P. Dubey, D. K. Howe, M. Furr, **W. J. Saville**, A.E. Marsh, S. M. Reed, M. E. Grigg. An update on *Sarcocystis neurona* infections in animals and Equine Protozoa! Myeloencephalitis (EPM). Vet Parasitol, 209: 1-42.

Schober, Karsten

Schober KE. Restrictive cardiomyopathy. In: Tilley LP, Smith FWK. Blackwell's Five Minute Veterinary Consult: Canine and Feline. Wiley Blackwell: Ames/Iowa, 2015, pp. 236-237.

Vrabelova D, Gilor C, Habing A, **Schober KE**, Johnson S. Synchronous diaphragmatic flutter secondary to primary hypoparathyroidism in a dog. JAAHA 2015;51(6):392-395.

Visser LC, Scansen BA, Brown NV, **Schober KE**, Bonagura JD. Echocardiographic assessment of right ventricular systolic function in conscious healthy dogs: Repeatability and reference intervals. J Vet Cardiol 2015;17:83-96.

Visser LC, Scansen BA, Brown NV, **Schober KE**, Bonagura JD. Echocardiographic assessment of right ventricular systolic function in healthy conscious dogs following a single oral dose of pimobendan versus atenolol. J Vet Cardiol 2015;17:161-172.

Scansen BS, Simpson EM, Lopez-Alvarez J, Thomas WP, Bright JM, Eason DB, Rush JD, Boswood A, Dukes-McEwan J, Green HW, Bulmer BJ, Visser LC, Kent AM, **Schober KE**. Pulmonary artery dissection in eight dogs with patent ductus arteriosus. J Vet Cardiol 2015;17:107-119.

Durham JA, Scansen BA, Bonagura JD, **Schober KE**, Cheatham SL, Cheatham JP. Iatrogenic embolization and transcatheter retrieval of a ventricular septal defect occluder in a dog. J Vet Cardiol 2015;17:306-315.

Schober KE. Use of diuretics in small animal practice (invited review). Fachpraxis 2015;67:8-14.

Schroeder, Eric

Schroeder, ES, "Investigating Respiratory Disease Outbreaks". In "Robinson's Current Therapy in Equine Medicine". Edited by: Sprayberry, KA, Robinson, NE. St. Louis: Elsevier. 2015.

Schroeder, EL. "Life Management for the Geriatric Horse" In: Western Veterinary Conference. Las Vegas, Elsevier. (2015): 12-15.

Schroeder, EL. "Foal Cardiopulmonary Cerebral Resuscitation" In: Western Veterinary Conference. Las Vegas, Elsevier. (2015): 8-12.

Schroeder, EL. "Fluid Therapy for the General Practitioner" In: Western Veterinary Conference. Las Vegas, Elsevier. (2015): 1-4.

Schroeder, EL. "Chronic Colic is There Any Hope" In: Western Veterinary Conference. Las Vegas, Elsevier. (2015): 4-8.

Schuenemann, Gustavo

Gott, P.N., P.J. Rajala-Schultz, **G.M. Schuenemann**, K.L. Proudfoot, and J.S. Hogan., "Intramammary infections and milk leakage following gradual or abrupt cessation of milking at dry-off". J. Dairy Sci.. (In Press).

Maquivar, M.G., A.A. Barragan, J. Velez, H. Bothe, and **G.M. Schuenemann**, "Effect of intrauterine dextrose on reproductive performance of lactating dairy cows diagnosed with purulent vaginal discharge under certified organic management". J. Dairy Sci.. Vol. 98, 3876–3886. 2015.

Titler, M., M.G. Maquivar, S. Bas, P.J. Rajala-Schultz, E. Gordon, K. McCullough, P. Federico, and **G.M. Schuenemann**, "Prediction of parturition in Holstein dairy cattle using electronic data loggers". J. Dairy Sci.. Vol. 98, 5304–5312. 2015.

da Costa, L.B., P.J. Rajala-Schultz, and **G.M. Schuenemann**, "Management practices associated with presence of Staphylococcus aureus in bulk tank milk from Ohio dairy herds". J. Dairy Sci. Vol. 99, 1364–1373. 2015.

Stull, Jason

Stull, Jason, W; Brophy, J; Weese, J, Scott, "Reducing the risk of pet-associated zoonotic infections". Canadian Medical Association Journal. Vol. Epub, Epub. 2015.

Bowman, Andrew S.; Nolting, Jacqueline M.; Nelson, Sarah W.; Bliss, Nola; **Stull, Jason W.**; Wang, Qihong; Premanandan, Christopher Premanandan, "Effects of disinfection on the molecular detection of porcine epidemic diarrhea virus". Veterinary Microbiology. Vol. 179, no. 3–4: 213–218. 2015.

Stull, JW, "Pet Therapy: What is it and does it Work?". Review of Animal-assisted therapy, Ontario Society of Medical Technologists Advocate. Vol. 22, no. 3: 18-19. (2015).

Tomasi, S; Mckenzie, L; Spiller, H; Roberts, K; **Stull, JW**. "Pediatric Exposures to Veterinary Pharmaceuticals (1999-2013)" In: North American Congress of Clinical Toxicology. Vol. 53. (2015): 639-777.

Tomasi, S; Mckenzie, L; Spiller, H; Roberts, K; **Stull, JW**. "Adult Exposures to Veterinary Pharmaceuticals (1999-2013)" In: North American Congress of Clinical Toxicology. Vol. 53. (2015): 639-777.

Toribio, Ramiro

Toribio RE, "Phosphorus". In "Equine Fluid Therapy". Edited by: Magdesian G, Fielding L. Ames: Wiley-Blackwell. 2015.

Maxwell MJ, Subia J, Abrego J, Garabed R, Xiao N, **Toribio RE**. Temporal and Spatial Analysis of the New World Screwworm (*Cochliomyia hominivorax*) in Darien and Embera, Panama (2001-2011). Transbound Emerg Dis. 2015 Dec 18. doi: 10.1111/tbed.12457.

Hildreth BE, Hernon KM, Dirksen WP, Leong J, Supsavhad W, Boyaka PN, Rosol TJ, **Toribio RE**. "Deletion of the nuclear localization sequence and C-terminus of PTHrP decreases osteogenesis and chondrogenesis but increases adipogenesis and myogenesis in murine bone marrow stromal cells." J Tissue Engineering 2015. [Peer-Review] (In press)

Young NA, Rosol TJ, Schlesinger LS, Cope FO, **Toribio RE**, Jarjour WN. OP0154 Manocept, A Derivative of FDA-Approved 99MTC-Tilmanocept, Exhibits Diagnostic Potential by Specifically Identifying Macrophages in Rheumatoid Arthritis: A Novel Application of an Existing Drug. *Ann Rheum Dis* 2015; 74:127. DOI:10.1136/annrheumdis-2015-eular

Zaghawa A, Housawi FMT, Al-Naeem A, Al-Nakhly H, **Toribio RE**. "Risk analysis and seroprevalence of bovine ephemeral fever virus in cattle in the Kingdom of Saudi Arabia." *Tropical Animal Health and Production*. 2015. *Trop Anim Health Prod*. 2015 Dec 16. [Epub ahead of print]

Hildreth BE, Williams MC, Dembek KA, Hernon KM, Rosol TJ, **Toribio RE**. Engraftment and bone mass are enhanced by PTHrP 1-34 in ectopically transplanted vertebrae (vossicle model) and can be non-invasively monitored with bioluminescence and fluorescence imaging. *Transgenic Res* 2015. DOI: 10.1007/s11248-015-9901-9 [Peer-Review]

Liepman RS, Dembek KA, **Toribio RE**. Validation of IgG cut-off values and their association with survival in neonatal foals: a response. *Equine Vet J*. 2015 Sep;47(5):632. doi: 10.1111/evj.12473.

Mendoza FJ, **Toribio RE**, Gonzales-De Cara A, Aguilera-Aguilera R, Estepa JC, Perez-Ecija A. "Characterization of the intravenous glucose tolerance test and the combined glucose-insulin test in donkeys. *Vet J* 2015. [Peer-Review] (In press)

Kamr A, Dembek KA, Slovis NM, Reed SM, Zaghawa AA, Rosol TJ, **Toribio RE**. Vitamin D metabolites and their association with calcium, phosphorus, and PTH concentrations, severity of illness, and mortality in hospitalized equine neonates. *PLOS ONE* 2015. [Peer-Review]. (Published)

Mendoza FJ, Estepa JC, Gonzalez-De Cara CA, Aguilera-Aguilera R, **Toribio RE**, Perez-Ecija RA. Energy-related parameters and their association with age, gender, and morphometric measurements in healthy donkeys. *Vet J*. 2015 May;204(2):201-7. doi: 10.1016/j.tvjl.2015.03.004

Simmons JK, Hildreth III BE, Supsavhad W, Elshafae SM, Hassan BB, Dirksen WP, **Toribio RE**, Rosol TJ, "Animal models of bone metastasis". *Vet Path*. Vol. Doi. 2015 pii: 0300985815586223. [Epub ahead of print]

Liepman RS, Dembek KA, Slovis NM, Reed SM, **Toribio RE**, "Validation of IgG cut-off values and their association with survival in neonatal foals". *Equine Vet J* 2015. Vol. doi: 10.1111/evj.12428. 2015. (Published).

Carey HA, Bronisz A, Cabrera J, Hildreth BE 3rd, Cuitiño M, Fu Q, Ahmad A, **Toribio RE**, Ostrowski MC, Sharma SM. " Failure to Target RANKL Signaling Through p38-MAPK Results in Defective Osteoclastogenesis in the Microphthalmia Cloudy-eyed Mutant. *J Cell Physiol*. 2015 Jul 27. doi: 10.1002/jcp.25108

Lanigan, LG, Dirksen, WP, Hildreth, BE 3rd, Simmons, JK, Boyaka PN, **Toribio RE**, Weilbaecher KN, Rosol TJ. "Tumorigenesis in Transgenic Mice Expressing the Human T-lymphotrophic Virus-1 Tax Viral Oncogene." 2015. (Accepted). No DOI available.

Vlasova, Anastasia

Lin, C. M., Gao, X., Oka, T., Vlasova, A. N., Esseili, M. A., Wang, Q., & Saif, L. J. (2015). Antigenic relationships among porcine epidemic diarrhea virus and transmissible gastroenteritis virus strains. *Journal of virology*, 89(6), 3332-3342.

Hu, H., Jung, K., Vlasova, A. N., Chepngeno, J., Lu, Z., Wang, Q., & Saif, L. J. (2015). Isolation and characterization of porcine deltacoronavirus from pigs with diarrhea in the United States. *Journal of clinical microbiology*, 53(5), 1537-1548.

Saif, L. J., A. N. Vlasova, and J. O. Amimo. "Detection and genetic diversity of porcine group A rotaviruses in historic (2004) and recent (2011/12) swine fecal samples in Ohio, USA: Predominance of G9P [13] genotype in nursing piglets." (2015).

Amimo, J.O., Junga, J.O., Ogara, W.O., Vlasova, A.N., Njahira, M.N., Maina, S., Okoth, E.A., Bishop, R.P., Saif, L.J. and Djikeng, A., 2015. Detection and genetic characterization of porcine group A rotaviruses in asymptomatic pigs in smallholder farms in East Africa: predominance of P [8] genotype resembling human strains. *Veterinary microbiology*, 175(2), pp.195-210.

Wang, Qihong

Lin, CM, Gao, X, Oka, T, Vlasova, AN, Esseili, MA, **Wang, Q**, Saif, LJ, "Antigenic Relationships among Porcine Epidemic Diarrhea Virus and Transmissible Gastroenteritis Virus Strains". *Journal of virology*. Vol. 89, no. 6: 3332-3342. 2015.

Hu, H, Jung, K, Vlasova, AN, Chepngeno, J, Lu, Z, **Wang, Q**, Saif, LJ, "Isolation and Characterization of Porcine Deltacoronavirus from Pigs with Diarrhea in the United States". *Journal of clinical microbiology*. Vol. 53, no. 5: 1537-48. 2015.

Xinsheng Liu, Tomoichiro Oka, **Qihong Wang**, "Genomic characterization of a US porcine kobuvirus strain". *Arch Microbial*. Vol. 197, 1033-40. 2015.

Martella V, Pinto P, Lorusso E, Di Martino B, **Wang Q**, Larocca V, Cavalli A, Camero M, Decaro N, Banyai K, Saif LJ, Buonavoglia C., "Detection and full-length genome characterization of novel canine vesiviruses". *Emerg Infect Dis*. Vol. 21, 1433-6. 2015.

Malak A. Esseili, Ashlina Chin, Linda Saif, Sally A. Miller, Feng Qu, Melanie L. Lewis Ivey and **Qihong Wang**, "Postharvest survival of porcine sapovirus, a human norovirus surrogate, on phytopathogen infected leafy greens". *Journal of Food Protection*. Vol. 78, 1472-1480. 2015.

Esseili MA, Saif LJ, Farkas T, **Wang Q**, "Fel ne Calicivirus, Murine Norovirus, Porcine Sapovirus and Tulane Virus Survival on Postharvest Lettuce". *Appl Environ Microbial*. Vol. 81, 5085-92. 2015.

Xinsheng Liu, Chun-Ming Lin, Annamalai Thavamathi, Xiang Gao, Zhongyan Lu, Malak A. Esseili, Kwonil Jung, Linda J. Saif, and **Qihong Wang**, "Determination of the infectious titer and virulence of US original porcine epidemic diarrhea virus PC22A strain". *Vet Res*. Vol. 46, 109. 2015.

Bowman AS, Nolting JM, Nelson SW, Bliss N, Stull JW, **Wang Q**, Premanandan C, "Effects of disinfection on the molecular detection of porcine epidemic diarrhea virus". *Vet Microbiology*. Vol. 179, 213-8. 2015.

Esseili, MA, Gao, X Tegtmeiers, S, Saif, LJ, and **Wang, Q**, "The effect of mechanical damage, heat and flooding on Human Norovirus, Tulane Virus and Murine Norovirus survival on pre-harvest lettuce plants". *Appl Environ Microbial*. Vol. 82, 352. 2015.

Matthew C. Jarvis, Ham Ching Lam, Yan Zhang, Leyi Wang, Richard A. Hesse, Ben M. Hause, Anastasia Vlasova, **Qihong Wang**, Jianqiang Zhang, Martha I. Nelson, Michael Murtaugh, and Douglas Marthaler, "Genomic and evolution inferences between American and global strains of porcine epidemic diarrhea virus". *Prev Vet Med*. Vol. 11, pi : S0167- 5877(15)30041-6. 2015.

Lu Z, Yokoyama M, Chen N, Oka T, Jung K, Chang KO, Annamalai T, **Wang Q**, Saif LJ., "Molecular mechanism of cell culture adaptation of porcine sapovirus". *J Viral*. Vol. 90, 1345. 2015.

Lin, CM, Annamalai, T, Liu, X, Gao X, Lu, Z, Eltholoth, M, Hu, H, Saif, LJ, **Wang, Q**,

"Experimental infection of a US spike-insertion deletion porcine epidemic diarrhea virus in conventional nursing piglets and cross-protection to the original US PEDV infection". *Vet Res.* Vol. 46, 134. 2015.

Oka, T, **Wang, Q**, Katayama K, and Saif LJ, "Comprehensive Review of Human Sapoviruses". *Clin Microbial Rev.* Vol. 28, 32-53. (2015).

Wavreille, Vincent

Wavreille, Vincent; Adin, Christopher, A; Arango, Johnattan; Ham, Kathleen, L; Byron, Julie, K; McLoughlin, Mary, A, "Suture-Free Technique for Canine Ureteral Resection-Anastomosis Using a Microvascular Anastomotic System: A Cadaveric Study". *Veterinary Surgery.* Vol. 44, no. 1: 17-22. 2015.

Wavreille, Vincent; Fitzpatrick, Noel; Drost, Wm, Tod; Russell, Duncan; Allen, Matthew, J, "Correlation Between Histopathologic, Arthroscopic, and Magnetic Resonance Imaging Findings in Dogs With Medial Coronoid Disease". *Veterinary Surgery.* Vol. 44, no. 4: 501-510. 2015.

Bertran, Judith; **Wavreille, Vincent, A**; Ham, Kathleen, L; McLoughlin, Mary, A; Adin, Christopher, A, "Suture-Free Ureterovesical Anastomosis Using a Microvascular Anastomosis System: Canine Cadaveric Study". *Veterinary Surgery.* Vol. 44, no. 6: 731-736. 2015.

Wellman, Maxey

Henderson SE, Clark ES, Stromberg PC, Radin, MJ, **Wellman ML**. Pathology in Practice-Canine Distemper Virus. 2015 *JAVMA*, 247(12):1373-7.

Sharkey LC, **Wellman ML**. Use of lactate in small animal clinical practice. 2015 *Clin Lab Med* 35(3):567-77.

Mundy LN, Ishahara A, **Wellman ML**, Bertone, AL. Evaluation of the ability of a gravitational filtration system to enhance recovery of equine bone marrow elements. 2015 *Am J Vet Res*, 76(6):561-9.

Wittum, Thomas

Mollenkopf, D. F., Faubel, R. L., Pancholi, P., Landers, T. F., Erdman, M. M., Daniels, J. B., & **Wittum, T. E.** (2015). Surveillance and characterization of carbapenemase-producing *Klebsiella pneumoniae* recovered from patient stool samples at a tertiary care medical center. *Antimicrobial agents and chemotherapy*, 59(9), 5857-5859.

Su, L., Townsend, K. L., Au, J., & **Wittum, T. E.** (2015). Comparison of tibial plateau angles in small and large breed dogs. *The Canadian Veterinary Journal*, 56(6), 610.

Rogers, G. M., King, M. E., Hill, K. L., **Wittum, T. E.**, & Odde, K. G. (2015). The effect of growth-promoting implant status on the sale price of beef calves sold through a livestock video auction service from 2010 through 2013. *The Professional Animal Scientist*, 31(5), 443-447.

Habing, G.G., Kessler, S.E., Mollenkopf, D.F., **Wittum, T.E.**, Anderson, T.C., Barton Behravesh, C., Joseph, L.A. and Erdman, M.M., 2015. Distribution and diversity of salmonella strains in shipments of hatchling poultry, United States, 2013. *Zoonoses and public health*, 62(5), pp.375-380.

Pornsukarom, S., Patchanee, P., Erdman, M., Cray, P.F., **Wittum, T.**, Lee, J. and Gebreyes, W.A., 2015. Comparative phenotypic and genotypic analyses of *Salmonella* Rissen that originated from food animals in Thailand and United States. *Zoonoses and public health*, 62(2), pp.151-158.

Wu, Li

Kohnken R, Kodigepalli KM, **Wu L**. Regulation of deoxynucleotide metabolism in cancer: novel mechanisms and therapeutic implications. *Molecular Cancer*. 2015; 14(1):176. PMID: 26416562.

St. Gelais C, Roger J, **Wu L**. Non-POU domain-containing octamer-binding protein negatively regulates HIV-1 infection in CD4+ T-cells. *AIDS Res Hum Retroviruses*. 2015; 31(8):806-816. PMID: 25769457.

Wang F, St. Gelais C, de Silva S, Zhang H, Geng Y, Shepard C, Kim B, Yount JS, **Wu L**. Phosphorylation of mouse SAMHD1 regulates its restriction of human immunodeficiency virus type 1 infection, but not murine leukemia virus infection. *Virology*. 2016; 487:273-284. Epub 2015 Nov 12. PMID: 26580513.

Mates JM, de Silva S, Lustberg M, Van Deusen K, Baiocchi R, **Wu L***, Kwiek JJ*. A Novel histone deacetylase inhibitor, AR-42, reactivates HIV-1 from chronically infected cells. *Retrovirology: Research and Treatment*. 2015; 7: 1–5. (*corresponding authors) PMID: 26855567.

Tang C, Ji X, **Wu L**, Xiong Y. Impaired dNTPase activity of SAMHD1 by phosphomimetic mutation of T592. *J Biol Chem*. 2015; 290(44): 26352-9. Selected as the Paper of the Week (only 16 papers in 2015 were selected by the JBC editors). PMID: 26294762.