

# Faculty Spotlight



Dr. Jianrong Li He received his D.V.M. and Ph.D. in Molecular Virology and Immunology from Zhejiang University, P. R. China. In 2002, he joined Ronald Iorio's laboratory in the Department of Molecular Genetics and Microbiology at the University of Massachusetts Medical School as a post-doc research fellow, working on paramyxovirus glycoprotein interaction and membrane fusion. After two years, he accepted a post-doc research position in Sean Whelan's laboratory in the Department of Microbiology and Molecular Genetics at Harvard Medical School, working on replication and gene expression of vesicular stomatitis virus. In May of 2008, he joined The Ohio State University as part of the research initiative for Public Health Preparedness for Infectious Diseases (PHPID). He is now an Associate Professor of Virology in the Department of Veterinary Biosciences Food Science and Technology (FST) in the College of Food, Agricultural, and Environmental Sciences (CFAES) with a joint appointment in the Division of Environmental Health Sciences (EHS) in the College of Public Health (CPH) at The Ohio State University.

Dr. Li is a virologist and microbiologist, whose research interests lie in both applied and basic sciences in virology, with a long-term goal of improving food safety and public health. For applied virology research, he is focusing on the development of novel mitigation strategies and processing technologies to inactivate and prevent major food- and water-borne viruses including human norovirus, rotavirus, and hepatitis A virus. For basic virology research, he is focusing on understanding the molecular mechanism of entry, replication, and gene expression of paramyxoviruses with a major emphasis on human metapneumovirus and avian metapneumovirus. His research efforts also involve studies of the epidemiology, transmission, pathology, and molecular biology of food- and water-borne viruses and human respiratory viruses to facilitate the development of novel vaccines and anti-viral interventions against these viruses.

HERS Institutes provide an intensive 12-day curriculum that prepares women faculty and administrators for institutional leadership roles. The Institutes focus on knowledge, skills and perspectives for achieving institutional priorities and maximizing institutional resources. Participants work with HERS Faculty and Alumnae to develop the professional development plans and networks needed for advancing as leaders in higher education administration. The Institutes deliberately seeks a diverse group of approximately 70 women leaders to share and learn from their multiple perspectives under the guidance of women faculty from higher education, national organizations, government and foundations. The participants are sponsored by a range of institutional types from different regions of the country. HERS Institute participants generally hold mid- to senior-level positions and bring expertise from many academic disciplines and organizational specialties. They also represent a range of ethnic and national groups, ages and years of experience in higher education and other related fields.



Dr. Burkhard will be doing the HERS Bryn Mawr. There were only six of from OSU that were awarded scholarships (that cover half the cost of the program) from The Women's Place.

<http://www.hersnet.org/institutes.asp>



Congratulations to Dr. Ian Davis, after 5 years serving as a reviewer for the American Heart Association, he has been appointed as Chair of one of the three lung study sections; "Lung 1". Dr. Davis and his committee review about 60 proposals each grant cycle (twice a year), which include undergraduate fellowships, graduate fellowships, post-doc awards, beginning grants and full grants.



### Updates from Dr. Tracey L. Papenfuss:

I have been selected as 1 of 3 internal OSU candidates to submit applications for the Burroughs Wellcome Investigators in the Pathogenesis of Infectious Diseases Career Development Funding opportunity.

Over the summer, the following MS student from my lab graduated:

Dr. Steven Friedenberg, a Veterinary Emergency and Clinical Care Resident and M.S. student in Dr. Papenfuss' laboratory, successfully defended his M.S. entitled, "Mitochondrial DAMPS as triggers of systemic inflammatory response syndrome (SIRS) in dogs. Dr. Friedenberg has joined a PhD program at NCSU Center for Comparative Medicine & Translational Research in the laboratory of Dr. Kate Meurs.

I have had the following publications: 1 Book chapter, 8 publications

Papenfuss, TL, Baker, J, "Use of Animal Models to Evaluate Myeloid Cell Dysfunction in Cancer". In "Myeloid Cells: Biology & Regulation, Role in Cancer Progression and Potential Implications for Therapy". Hauppauge, NY: Nova Publishers. 2013. (Accepted; In Press) Description: This book is a comprehensive book on the topic of myeloid cells in cancer.

- Sherger M, Kisseberth W, London C, Olivo-Marston S, Papenfuss TL 2012. Identification of myeloid derived suppressor cells in the peripheral blood of tumor bearing dogs. *BMC Vet Res*. 2012 8(1):209. PMID: 23110794.
- Manickam C, Dwivedi V, Miller J, Papenfuss T, Renukaradhya GJ (2013) Mycobacterium tuberculosis Whole Cell Lysate Enhances Proliferation of CD8 Positive Lymphocytes and Nitric Oxide Secretion in the Lungs of Live Porcine Respiratory and Reproductive Syndrome Virus Vaccinated Pigs. *Viral Immunology* 26(1): 102-108.
- Peine KJ, Bachelder EM, Vangundy Z, Papenfuss T, Brackman DJ, Gallovi MD, Schully K, Pesce J, Keane-Myers A, Ainslie, KM (2013) Efficient Delivery of the TLR-Agonists Poly I:C and CpG to Macrophages by Acetalated Dextran Microparticles *Molecular Pharmaceutics* 10(8): 2849-2857
- Markowitz J, Wesolowski R, Papenfuss T, Brooks TR, Carson WE 3<sup>rd</sup> (2013). Myeloid Derived Suppressor Cells in Breast Cancer. *Breast Cancer Research & Treatment*. Epub July 5, 2013 [Epub ahead of Print]
- Julian MW, Shao G, VanGundy ZC, Papenfuss TL, Crouser ED (2013) Mitochondrial transcription factor A (TFAM), a danger signal released from damaged cells, promotes TNF-alpha release via RAGE and TLR9-responsive plasmacytoid dendritic cells. *PLoS One* August 12, 8(8): 372354 [Epub ahead of Print]
- Peine KJ, Gupta G, Brackman DJ, Papenfuss TL, Ainslie KM, Satoskar AR, Bachelder EM. (2013) Liposomal resiquimod for the treatment of Leishmania donovani infection. *J Antimicrob Chemother*. Aug 16. [Epub ahead of print]
- Yasmeen R, Meyers JM, Alvarez CE, Thomas JL, Bonnagarde-Bernard A, Alder H, Papenfuss TL, Benson DM Jr, Boyaka PN, Ziouzenkova O. (2013) Aldehyde dehydrogenase-1a1 induces oncogene suppressor genes in B cell populations. *Biochim Biophys Acta*. Sep 27. [Epub ahead of print]
- Aeffner F, Pressler B, Hall M, Townsend K, Papenfuss TL. (Accepted, JAVMA, July 2013) Pathology in Practice: A case of canine intestinal pythiosis. *Journal of the American Veterinary Association [Accepted]*.

# Awards

- Feifei Wang in Dr. Wu lab received a 2-year C. Glenn Barber Fellowship to support her graduate study. Title: Phosphorylation of mouse SAMHD1 regulates its restriction of retroviral infection in cells.
- Li Wu received a two-year pilot grant for anti-HIV drug discovery from the OSU CMIB AR-12 drug discovery program collaboration with ARNO Therapeutics .Title: Evaluation of anti-HIV activity of AR-12 and its derivatives and effect of AR-42 on HIV latency in CD4+ T-cells.
- The abstract from this poster received the following award to attend next year's EB meeting in San Diego: American College of Veterinary Pathologists (ACVP) – American Society of Investigative Pathology (ASIP) Meeting Travel Award; To attend the 2014 Experimental Biology Meeting  
Famke Aeffner, Lisa M. Joseph, Alice A. Gaughan, Basant Abdulrahman, Judy M. Hickman-Davis, Paul Janssen, Don Hayes, Amal Amer, David M. Bedwell, Eric J. Sorscher, Ian C. Davis.  
Mice heterozygous for the F508del mutation in the cystic fibrosis transmembrane conductance regulator anion channel display attenuated cardiopulmonary dysfunction and lung injury after influenza H1N1 infection  
64<sup>th</sup> Annual Meeting of the American College of Veterinary Pathologists; Montreal, Canada.

Famke joined the VBS family in 2008 to join the combined Veterinary Anatomic Pathology Residency/PhD program. In 2009 she started her thesis research in the lab of Dr. Ian C. Davis. Throughout her time in our department she has gained regional and national recognition for her research achievements through numerous oral presentations, posters as well as high-impact publications. Dr. Aeffner successfully defended her thesis (“Pathophysiologic effects of influenza infection on the murine lung and evaluation of novel therapeutic targets”) on November 8<sup>th</sup> followed by relocation to Boulder, Colorado to start her new position as Pathologist at Flagship Biosciences.

Flagship Biosciences is committed to setting the standard for quality in quantitative histopathology services to the pharmaceutical and medical device industries. Famke will be working within a team of dedicated pathologists, biologists, image analysis engineers, histologists and regulatory personnel. In her new position she will be involved in all aspects of drug development, directly working with pharmaceutical and biotech companies as they integrate tissue image analysis techniques from discovery efforts to development of companion diagnostics. Additionally Famke will provide internal training of biologists and analysts in the field of histology and histopathology.

Famke expressed that while she is sad to be leaving, she is very excited about her new position and the young team of exceptional scientists she is joining. We wish her all the best for this next step in her career.





# Publications

- **Wu L.** *Samhd1* knockout mice: modeling retrovirus restriction *in vivo*. *Retrovirology*. 2013; 10:142.
- **Mohan Kumar D, Yamaguchi M, Miura K, Lin M, Los M, Coy J, Rikihisa Y** (2013) *Ehrlichia chaffeensis* Uses Its Surface Protein EtpE to Bind GPI-Anchored Protein DNase X and Trigger Entry into Mammalian Cells. *PLoS Pathog* 9(10): e1003666. doi:10.1371/journal.ppat.1003666
- **Wang P, Dadhwal P, Cheng Z, Zianni MR, Rikihisa Y, Liang FT, Li X.** (2013) *Borrelia burgdorferi* oxidative stress regulator *BosR* directly represses lipoproteins primarily expressed in the tick during mammalian infection. *Molecular Microbiology* Jul 22. doi: 10.1111/mmi.12337. [Epub ahead of print]
- **Li X, Strle K, Wang P, Acosta DI, McHugh GA, Sikand N, Strle F, Steere AC.** (2013) Tick-Specific Borrelial Antigens Appear to Be Upregulated in American but Not European Patients With Lyme Arthritis, a Late Manifestation of Lyme Borreliosis. *J Infect Dis*. 2013 Jul 2. [Epub ahead of print]
- **Schober CE, Kent AM, Aeffner F.** Tachycardia-induced cardiomyopathy in a cat. *Accepted: Schweizer Archive für Tierheilkunde*.
- **Aeffner F, Hall M, Townsend K, Pressler B, Papenfuss T.** Pathology in Practice – Canine intestinal pythiosis. *Accepted: Journal of the American Veterinary Medical Association*.
- **Pieczarka EM, Russell DS, Santangelo KS, Aeffner F, Burkhard MJ.** Osseous metaplasia within a canine islet cell carcinoma (insulinoma). *Accepted: Journal of Clinical Pathology*.

