Our Educational Mission

In the Department of Veterinary Bioscience, we discover the mechanisms of disease. **We use this knowledge to educate others** and to develop and utilize tools for disease diagnosis, treatment, and intervention to improve the health of animals and humans. **In the process of educating others, several members of VBS were recently recognized for their teaching excellence!**

Dr. Li Wu is shown receiving the Charles C. Capen Teaching Excellence Award for Graduate Education from Dean Lonnie King. This award honors faculty who excel in their roles as advisors and mentors for Master of Science and Doctor of Philosophy candidates, as participants in departmental graduate programs, or as resource persons for the graduate students of the College.

Dr. Mary Jo Burkhard is shown receiving the Class of 2018 Excellence in Teaching Award from Kristen Bartholomew (Class President). Excellence in Teaching awardees are selected by students in the professional veterinary medical education program based on their character, the caliber of their instruction and teaching ability, and their responsiveness to needs of the students.

Dr. Maggie Shoemaker (1st year PhD / anatomic pathology resident) is awarded the SCAVMA Outstanding Teacher Award for Resident/Graduate Teaching Associates by Lyle Simpson (SCAVMA President). This award recognizes teaching ability, knowledge in their area of expertise, responsiveness to the needs of students, and dedication to the College and the profession.
Distinguished alum Salvador Butera

Dr. Salvador (Sal) Butera was recognized as a Distinguished Alumnus of the College of Veterinary Medicine at this year’s Oath and Hooding Ceremony.

Sal is currently Chief Science Officer at the Center for HIV/AIDS Vaccine Immunology and Immunogen Discovery at the Scripps Research Institute. His career path has been inherently impactful – he has utilized an extensive background of laboratory expertise, senior-level management experience, and knowledge of US Government health-science programs to advance human and animal disease prevention with local benefit and global impact.

Dr. Butera completed a dual degree program at The Ohio State University receiving his DVM and MS in 1985. He followed this with a PhD at Colorado State University and then entered a 22 year career at CDC where he rose from Staff Research Fellow to Virology Section Chief to the Associate Director for Laboratory Science, Office of the Director, National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention.

Sal then transitioned to The Scripps Research Institute in La Jolla California, where he now serves as Director of Scientific Support for the Neutralizing Antibody Center, which is part of the International AIDS Vaccine Initiative. He and his group have secured funding from the NIH to establish the Center for HIV/AIDS Vaccine Immunology and Immunogen Discovery - whose goal is to develop an HIV preventative vaccine.

Sal has an extensive record of peer-reviewed scholarship, book chapters, and invited presentations, as well as editorial, advisory, and review panels. However, most importantly, by embracing leadership roles at the CDC and The Scripps Research Institute, Dr. Butera demonstrates the power and value of a veterinary medical education to the broader biomedical community.

It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change.
– Charles Darwin
Anne Saulsbery
Title: Lead Histology Technician
(although we are all pretty self-sufficient!)

Years of Service: 15 years

Where do you work? The Histology Lab

Recent contribution to the department: I enjoy adding to my knowledge of special stains the renal panel of stains that I had to acquire when Dr. Cianciolo came on board with the renal pathology service.

Best Part about working in Biosciences: The best part of working in Biosciences for me is meeting and learning from all the researchers and graduate students that come though the histology lab.

Shannon Binkley
Title: Program Assistant

Years of Service: 1 year

Where do you work? Front Office of Goss Lab

Recent contribution to the department: Working with Dr. Cianciolo and Texas A&M University to coordinate shipping for The International Veterinary Renal Pathology Service. We’ve helped practices in Australia, South Korea, the UK, and Canada.

Best Part about working in Biosciences: Listening to researchers talking about their projects and actually understanding some of it now (from being surrounded by it for a year). And, getting to – hopefully! – maybe see the inside of a squid someday.

Rosol Selected as HBA Mentor for Personal Branding

Dr. Rosol has been selected as the only male mentor for the Healthcare Businesswomen’s Association (HBA) in-depth program on personal branding. Rosol will have 4 mentees selected by HBA and they will complete their program that includes two meetings a month with a market-ready brand during a graduation ceremony in November. The program follows the book, 'Branding Pays: The Five-Step System to Reinvent Your Personal Brand' by branding expert, Karen Kang. [www.hbanet.org](http://www.hbanet.org)

It is what we make of what we have, not what we are given, that separates one person from another.
- Nelson Mandela
Trainee Awards – Kudos!

CVM Research Day
Immunology & Infectious Diseases *

**Tara Martin**
Identification of cGAMP as an effective adjuvant for induction of mucosal IgA via sublingual immunization
Mentor: Dr. Prosper Boyaka
* Sponsored by the Public Health Preparedness for Infectious Diseases Program

**EunSoo Kim**
Chronic ingestion of low doses of cadmium alters the gut microbiome and immune homeostasis to enhance allergic sensitization
Selected for oral presentation & travel award at the American Association of Immunologists meeting
Mentors: Drs. Estelle Cormet-Boyaka and Prosper Boyaka

**Dr. Michael Martinez**
Received the Ohio State Excellence in Pathology and the ACVP Excellence in Veterinary Pathology Awards. He will join our combined anatomic residency / PhD program in June!

CVM Research Day
Molecular & Cellular Biology

**Dr. Lauren Himmel**
Suppression of breast cancer stem cells in the MMTV-Her2/neu mouse model by the hdac inhibitor AR-42
Mentor: Dr. Ching-Shih Chen

**Feifei Wang**
Hayes Graduate Research Forum
2nd Place, Oral Presentation
Effect of phosphorylation of mouse SAMHD1 on restriction of HIV-1 and murine leukemia virus infections
Mentor: Dr. Li Wu

* Congratulations current & alumni trainees for successful completion of Phase I of the ACVP Certifying Exam!

Nadine Bowden
Sarah Chaney
Elizabeth Clark
Laurie Milward

 Dreams are extremely important. You can’t do it unless you can imagine it.
- George Lucas
Impact starts with discovery!

Engineering protease-resistant A/B foldamer peptides for broad spectrum antivirals. **Stefan Niewiesk**; Weill Cornell Medical College.

Mechanisms underlying influenza-induced CF exacerbations. **Ian Davis**; Cystic Fibrosis Foundation.

Dissecting the role of miR-9 in normal and malignant mast cell biology. Joelle Fenger (Mentors: **Cheryl London**, Guido Marcucci); National Institutes of Health, KO2.

Accelerator Award

Congratulations to Drs. **Yasuko Rikihisa** and **Ian Davis**, their internal team, Drs. **Jean Schelhorn**, **Kate Hayes-Ozello**, **Tom Rosol**, and **Melissa Kelly**, and external partners Dr. **David Ralph** and Mr. **John Steele** on winning an Ohio State University Accelerator Award for their proposal:

*Harnessing Nature’s Tick to Deliver Drugs*

This was the first round of Accelerator Awards granted at The Ohio State University. The primary goal of the new Accelerator Awards is to provide Ohio State researchers with awards up to $50,000 to develop and validate inventions, software, and technologies and to make early inventions more marketable to potential licensing and/or business partners.

*Your success in life isn’t based on your ability to simply change. It is based on your ability to change faster than your competition.*

– Mark Sanborn
**Publication spotlight:** Cigarette smoke damages channels in airway cells that are critical for mucous clearance

Over 90% of patients who develop chronic obstructive pulmonary disease (COPD) are or were smokers and cigarette smoke has been shown to interfere with the function of airway cell channels that are critical for airway cells to remove mucous and other material from the lungs. In this study, the lab of Dr. Estelle Cormet-Boyaka found that cigarette smoke activates a pathway (MAPK/ERK) which is responsible for communication between the airway cell’s nucleus and the channel on the surface. Activation of this pathway leads to increased destruction of the airway channel – a key marker associated with reduced clearance of mucous, bronchitis, and obstructive airway disease in people. Importantly, they found that blocking the MAPK/ERK pathway, prevented the destruction of the airway channel – providing potential new treatments for patients with COPD.


**Publication spotlight:** Newly characterized pig virus causes major economic impact

In 2014, a new virus emerged in pigs in the Midwest and rapidly spread across North America resulting in major economic losses. Although having similarity to other major diseases of pigs (transmissible gastroenteritis and epidemic diarrhea), veterinarians and researchers were able to identify a novel virus (porcine deltacoronovirus) as causing the disease. The labs of Drs. Jianrong Li, Steve Krakowka, and Mike Oglesbee teamed up to study this virus. They analyzed the virus’s genetic structure found it to be similar to coronoviruses of Asian leopard cats and Chinese ferret-badgers. They also tested the virus and compared it to other coronoviruses of pigs to better understand the disease it causes, the organs it affects, how it is transmitted and infects other pigs, and how to test for the infection. They show that the new virus causes severe diarrhea and vomiting in piglets, replicates strongly in the gut but also blood and multiple organs throughout the body. Furthermore, the virus was found to be highly infectious and could persist in pigs for a long period of time – making it a challenge to clear from a swine facility.


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*People think focus means saying yes to the thing you’ve got to focus on. But that’s not what it means at all. It means saying no to the hundred other good ideas that there are. You have to pick carefully. – Steve Jobs*
Sharing new knowledge

From our pathology and shared resource groups

Comparative Pathology & Mouse Phenotyping Shared Resource
• Bolon, B (Editor). Pathology of the Developing Mouse; a systematic approach. CRC Press

International Veterinary Renal Pathology Service

Pathology

From our research and clinical trial groups

Boyaka lab

Cormet-Boyaka lab

Ideas are cheap – making something of them is difficult.
- Anne Sigismund Huff
A good head and a good heart are always a formidable combination. But when you add to that a literate tongue or pen, then you have something very special.

- Nelson Mandela
Scholarship and Excellence

Rosol lab
• Byrd RA, Sorden SD, Ryan T, Pienkowski T, LaRock R, Quander R, Wijsman JA, Smith HW, Blackbourne JL, Rosol TJ, Long GG, Martin JA, Vahle JL. Chronic Toxicity and Carcinogenicity Studies of the Long-Acting GLP-1 Receptor Agonist Dulaglutide in Rodents. *Endocrinology*

Wu lab
• Wong HK, de Silva S, Mishra A, Wu L, and Porcu P. Cutaneous T Cell Lymphoma: Mycosis Fungoides and Sézary Syndrome. In Lu, Q., Chang CC, and Richardson BC (Eds) *Epigenetics & Dermatology*

Noteworthy news!

Drs. Jean Schelhorn and Tom Rosol, with Dr. Joan Herbers and members of the NSF funded CEOS (Comprehensive Equity at Ohio State) project, were part of the Organizing Committee for the National Summit on Innovation & Entrepreneurship – A Roadmap for Inclusion held April 30, 2015 in Washington DC. This partnership between the Association for Women in Science (AWIS) and Ohio State, was designed to bring together experts in innovation and entrepreneurship from industry, academia, and government to develop a roadmap for engaging women as well as men in STEM (science, technology, engineering, and mathematics) entrepreneurship.

Science is simply common sense at its best, that is, rigidly accurate in observation and merciless to fallacy in logic.
- Thomas Henry Huxley