

Dr. Shelley Burton Becomes ASVCP President

Congratulations to **Dr. Shelley Burton** who became President of the American Society for Veterinary Clinical Pathology (ASVCP) for a one year term in 2015-2016. As part of a 3 year elected term on the ASVCP Executive Board, Dr. Burton took over the presidency on October 18th in Minneapolis. Although the position keeps her busy, Dr. Burton is honored to serve. As a long time ASVCP member, this organization has benefitted her professional life (through learning opportunities) and personal life (through gaining friends) and has provided networking and other opportunities for department pathology trainees.

Photo: Dr. Shelley Burton presenting a memento to outgoing ASVCP President, Dr. Jeffrey McCartney. Photo courtesy of the ASVCP.



Dr. Cora Gilroy Receives Zoetis Carl J. Norden Distinguished Teacher Award



Congratulations to **Dr. Cora Gilroy**, Veterinary Clinical Pathologist, on being the recipient of the 2015 Zoetis Carl J. Norden Distinguished Teacher Award, the highest teaching award given by North American veterinary colleges. Dr. Gilroy has many teaching responsibilities in clinical pathology, including 2nd and 4th year undergraduate Doctor of Veterinary Medicine courses, graduate courses and many hours per year of resident training. She has extensively revamped 2nd year clinical chemistry teaching to utilize team based learning, a flipped classroom setting and clicker quizzes. As volunteer faculty advisor to the American College of Veterinary Pathologists Student Chapter at UPEI, Dr. Gilroy spends many hours preparing and providing extracurricular rounds, lectures and wet laboratories. Dr. Gilroy has a passion for teaching that has grown as she has learned pedagogical methods that help her teach a subject she so thoroughly enjoys!

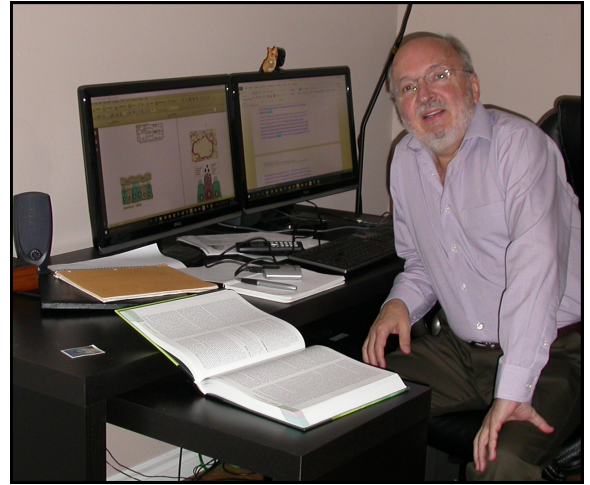
Photo: Dr. Cora Gilroy receiving award from Dr. Juanita Glencross (Zoetis Canada Inc.)

Dr. Alfonso Lopez Continues as Editor of the Pathology & Microbiology Newsletter

The Department of Pathology and Microbiology is pleased that **Dr. Alfonso Lopez** will continue to serve as the Editor of our Pathology & Microbiology newsletter. Dr. Lopez, a Professor Emeritus at UPEI, has been the editor since the newsletter was started by **Dr. Fred Kibenge** in his first term as Department Chair in July, 2009. **Drs. Shelley Burton** and **Maria Forzan** will continue to serve as our two silent editors, working with **Ingrid MacLeod**.

Dr. Lopez has recently retired and moved with his wife, Rosalie, to Guelph, Ontario. An exciting personal event in his life is the arrival in October of his first grandson, Wyatt, born to his daughter, Adriana and her husband, Nick.

Photo: Dr. Lopez in editing mode in Guelph, Ontario.



Recent Research Grants



Congratulations to **Dr. Anne Muckle** for her recent success in being awarded an NSERC Engage Grant of \$25,000, with Industry partner Elanco Animal Health/ Division of Eli Lilly, Charlottetown, PEI. **Drs. Shona Whyte** and **Mark Fast** are collaborators on this project. The research project is titled 'Combating Winter Ulcer Disease in Canadian Industry'. Winter ulcer disease caused by *Moritella viscosa* has had significant economic effects on the Atlantic Salmon aquaculture industry in the North Atlantic. This study aims to improve our understanding of *M. viscosa*, its biology, virulence mechanisms, and host-pathogen interactions which is important for the development of effective treatments against the disease.

Well done Dr. Muckle!



Congratulations to **Dr. Mark Fast** who has been informed that the Norwegian Research Centre he collaborates with, the Sea Lice Research Centre (SLRC) at University of Bergen, Bergen, Norway, were successful in being awarded an INTPART program grant. The two international Investigators on this grant are Dr. Mark Fast (Atlantic Veterinary College, University of Prince Edward Island) and Dr. Ben Koop (University of Victoria, British Columbia). The total award value is 3.047.000 NOK (468 588 Canadian dollars) from the Norwegian Research Council. The goal of the funded project is to enhance collaboration between the universities, co-supervising graduate students and projects, yearly training and workshops for the graduate students at the AVC to go to the University of Bergen. This university will also send their graduate students here for training and research. The grant runs from 2016-2018, and each year will involve up to 7 graduate students from the AVC to attend training at the University of Bergen (summer school) on salmon and lice genetics, and a similar number of students from the University of Bergen to come to the AVC for training in salmon immunology. Yearly workshops to share information and update collaborations will occur (2016 at AVC; 2017 University of Bergen) and research stays for principle investigators and graduate students will also occur on an annual basis in both locations to initiate collaborative research projects.

Well done Dr. Fast!

Recent PhD Thesis Defenses



Congratulations to **Dr. María Forzán** who successfully defended her PhD thesis [Pathogenesis of Frog virus 3 (*Ranavirus* sp, *Iridoviridae*) in the wood frog, *Rana sylvatica* (*Lithobates sylvaticus*)] on October 13, 2015. María was co-supervised by **Dr. Pierre-Yves Daoust** and **Dr. Fred Markham**. **Dr. Enrique Aburto** chaired the Examination Committee.

María continues to be an active member of the Canadian Wildlife Health Cooperative at AVC.

Congratulations María!



Congratulations to **Sarah McConnachie** who successfully defended her PhD thesis [Manipulation of the *Loma salmonae*-rainbow trout disease model with special reference to integrated multitrophic aquaculture practices] on Monday November 9, 2015. Sarah was supervised by **Dr. Dave Speare**. **Dr. Mark Fast** chaired the Examination Committee.

Sarah is currently a 2nd year DVM student at AVC.

Congratulations Sarah!

Aquaviruses 2015 Workshop in Chile

Dr. Fred Kibenge was an invited speaker at the Aquaviruses 2015 Workshop that was held in Puerto Montt, Chile, on October 29, 2015. The workshop was organized by the Center for Applied Biological Research (CIBA) and was sponsored by EWOS in Chile. Dr. Kibenge presented the latest research on piscine reovirus (PRV), the causative agent of heart and skeletal muscle inflammation (HSMI) in farmed Atlantic salmon. His presentation was titled “Molecular epidemiology of piscine reovirus (PRV), etiologic agent of heart and skeletal muscle inflammation (HSMI)”. The workshop had about 150 attendees and provided simultaneous English and Spanish translations.



Photo from: <http://www.aqua.cl/2015/10/30/industria-del-salmon-analiza-los-ultimos-conocimientos-de-la-hsmi/>

XXVI Panamanian National Poultry Conference



Dr. Juan Carlos Rodriguez was invited as a keynote speaker to the XXVI Panamanian National Poultry Conference, November 13, 2015, Panama City, Panama. This international meeting was attended by 250 people involved in the Panamanian and central American poultry industry; Dr. Rodriguez gave a presentation entitled "Immunomodulation of the innate immunity through avian macrophages: Preparing the protection".

2015 XXIV Latin American Poultry Farming Congress

Dr. Juan Carlos Rodriguez was a key speaker at the 2015 XXIV Latin American Poultry Farming Congress in Guayaquil, Ecuador, September 9, 2015. He gave a talk titled, 'Immune Response Mechanisms of Avian Digestive and Respiratory Systems'. He had the opportunity to meet people involved in collaborative research with him. This is the most important and relevant meeting for the poultry industry in all of Latin America.



Poultry Production in Ecuador



Dr. Juan Carlos Rodriguez gave a two day workshop on Poultry vaccine, immune responses and practical epidemiology: *Fundamental basis for efficient production* in Salinas, Ecuador, September 7 and 8, 2015. This was a DVM poultry specialist workshop that involved professionals from: Venezuela, Dominican Republic, Colombia, Ecuador, Peru, and Chile.

32nd European Association of Fish Pathologists (EAFP) Meeting

Dr. Laura Braden attended the European Association of Fish Pathologists (EAFP) meeting in Las Palmas, Gran Canaria, Spain, from September 7-11th, 2015. She presented two talks titled “Resolution of *Kudoa thyrsites* infection is associated with MHII β + cells in Atlantic salmon”, and “Host susceptibility to infection by the salmon louse involves responses by both parasite and host”, and chaired the Host-Parasite Interactions session.

The conference, now in its 32nd year, was attended by hundreds of scientists from all over the world. The program for this year’s event included talks on immunostimulants, prebiotics and probiotics, parasitic diseases, aquatic animal epidemiology, fish and shellfish immunology, and host-parasite interactions.



After the conference, Laura and her partner were able to go explore the island, including going SCUBA diving at one of the marine reserves where they saw cuttlefish, rays, barracuda, jacks, octopi, and nudibranchs.

Photo credit by Laura Braden

Canadian National White-Nose Syndrome Program

In the week leading up to Halloween, the Canadian National White-Nose Syndrome (WNS) program coordinator based out of the Canadian Wildlife Health Cooperative (CWHC), Atlantic Region in the AVC collaborated with many Canadian and US organizations to organize Bat Week 2015. Bat Week is an annual international celebration of bats’ critical roles in nature. During this week bats are put in the spotlight to educate people about their importance and debunk the myths that give them a bad rap.

One social media post on Bat Diversity (see below), created by the Canadian National WNS coordinator went viral and reached over 25,000 people.

In addition, just in time for Bat Week and the bat WNS surveillance season that starts each year on November 1, the CWHC in collaboration with the Parks Canada Agency (PCA) released a decontamination video. It outlines the steps for the proper handling and decontamination of clothing and equipment to prevent human-related spread of WNS during and after visiting bat caves. This video augments a key decontamination protocol that was developed for bat researchers and cave explorers. The video can be viewed here: <https://youtu.be/kQjALbixJKY>

Bat Diversity-The Many Faces of Bats



Today we honour the beauty of diversity with this tribute to the many faces of bats!

Bats are among the most diverse group of mammals and represent about 20% of all mammalian species. Worldwide more than 1300 different bat species have been described, from the smallest (the bumblebee bat: 2 grams with a wingspan of 12 cm) to the largest (the golden-crowned flying fox: 1.2 kg with a wingspan of 1.7 meters).

Bats live on all continents, except Antarctica, and fill many niches in the ecosystems they live in. There are bats that feed on insects, fruit, nectar, blood, scorpions, frogs, fish, other bats, and other foods. Many bats can use echolocation to navigate in the dark and have faces that are adapted to accommodate this. Others have faces that help guide fruit juice to their mouth.

Photo credit: Jordi Segers

Recent Publications

Wolf JC, Baumgartner WA, Blazer VS, Camus AC, Engelhardt JA, Fournie JW, Frasca Jr. S, Groman DB, Kent ML, Khoo LH, Law JM, Lombardini ED, Ruehl-Fehlert C, Segner HE, Smith SA, Spitsbergen JM, Weber K, Wolfe MJ. Nonlesions, misdiagnoses, missed diagnoses, and other interpretive challenges in fish histopathology studies: A guide for investigators, authors, reviewers, and readers. *Toxicologic Pathology* 2015; 43: 297-325.

Mahony A, Fraser S, Groman DB, Jones SRM. Specific PCR for *Myxobolus articus* SSU rDNA in juvenile sockeye salmon *Oncorhynchus nerka* from British Columbia, Canada. *Diseases of Aquatic Organisms* 2015; 115: 87-92.

St-Hilaire S, Price D, Taylor S, Groman D. Treatment of diplomonad intestinal parasites with magnesium sulphate at a commercial rainbow trout (*Oncorhynchus mykiss*) facility. *Canadian Veterinary Journal* 2015; 56: 876-878.

Overy DP, Martin C, Muckle A, Lund L, Wood J, Hanna P. Cutaneous phaeohyphomycosis caused by *Exophiala attenuate* in a domestic cat. *Mycopathologia* 2015; 180: 281-287.

Sommer B, Overy DP, Kerr RG. Identification and characterization of lipases from *Malassezia restricta*, a causative agent of dandruff. *Federation of European Microbiological Societies Yeast Research* 2015; Vol 15, No. 7.

Laurin EL, McKenna SLB, Sanchez J, Bach H, Rodriguez-Lecompte JC, Chaffer M, Keefe GP. Novel cell preservation technique to extend bovine *in vitro* white blood cell viability. *PLOS ONE* DOI:10.1371/journal.pone.0140046 October 8, 2015.

Gomez DE, Valberg SJ, Magdesian KG, Hanna PE, Lofstedt J. Acquired multiple acyl-CoA dehydrogenase deficiency and marked selenium deficiency causing severe rhabdomyolysis in a horse. *Canadian Veterinary Journal* 2015; 56:1166-1171.

McEwan GF, Groner ML, Fast MD, Gettinby G, Revie CW. Using agent-based modelling to predict the role of wild refugia in the evolution of resistance of sea lice to chemotherapeutants. *PLOS ONE* 2015; DOI:10.1371/journal.pone.0139128.

Lewis N, Martinson S, Wadowski D, Desmarchelier M. Malignant mixed chromatophoroma with cutaneous, pulmonary and testicular metastasis in a veiled chameleon (*Chamaeleo calytratus*). *J Herpetological Med Surg* 2015; 25 (1-2):16 – 20.

Recent Publications

Sappal R, Fast M, Stevens D, Kibenge F, Siah A, Kamunde C. Effects of copper, hypoxia and acute temperature shifts on mitochondrial oxidation in rainbow trout (*Oncorhynchus mykiss*) acclimated to warm temperature. *Aquatic Toxicology* 2015;169:46-57.

Abd-El-Aziz A, Agatemor C, Etkin N, Overy DP, Kerr RG. Redox-active cationic organoiron complex: a promising lead structure for developing antimicrobial agents with activity against Gram-positive pathogens including methicillin-resistant *Staphylococcus aureus* and vancomycin-resistant *Enterococcus faecium*. DOI:10.1039/c5ra16613f.

Abd-El-Aziz A, Agatemor C, Etkin N, Overy DP, Lanteigne M, McQuillan K, Kerr RG. Antimicrobial organometallic dendrimers with tunable activity against multidrug-resistant bacteria. DOI: 10.1021/acs.biomac.5b01207.

Gomez DE, Radtke CL, Russell LA, López A, Wichtel MW. Acute pancreatitis following granulosa theca cell tumor removal in a mare. *Can Vet J* 2015; 56: 1049-1051.

Nekouei O, Stryhn H, VanLeeuwen J, Kelton D, Hanna P, Keefe G. Predicting within-herd prevalence of infection with bovine leukemia virus using bulk-tank milk antibody levels. *Preventive Veterinary Medicine* 2015; 122: 53-60.

The Chair's Holiday Greeting and End of Year Message



This is my seventh end of year message. I will be providing a department report card in the next issue of our newsletter. As 2015 comes to an end and we take a few days to enjoy the holiday season with our families and friends, I want to share with you the wish that there may be peace on earth and love in the hearts of all mankind this holiday season and always. This is a time to reflect on our successes in 2015 and be thankful for all the contributions of many people along the way and a time to recommit to a productive 2016.

Have a wonderful Christmas holiday and best wishes for the New Year!
Fred Kibenge



For comments or suggestions for our newsletter, please contact: Dr. Fred Kibenge (kibenge@upei.ca) or Ingrid MacLeod (imacleod@upei.ca) (902) 566-0541.

Editor Dr. Alfonso López. Reviewers: Dr. Shelley Burton and Dr. María Forzán.

Please don't print this newsletter unless you really need to!

