

Dr. Mark Fast (UPEI) to Partner with Memorial University and WWOS/Cargill



Congratulations to **Dr. Mark Fast** for his recent research funding success through Genome Canada. Scientists at Memorial University of Newfoundland and the University of Prince Edward Island (UPEI) are partnering with industry partner EWOS/Cargill to develop new therapeutic diets for farmed Atlantic salmon. The initiative could lead to healthier fish and significant savings for the Canadian aquaculture industry. The \$4.5 million Integrated pathogen management of co-infection in Atlantic salmon project is one of six national research collaborations awarded through Genome Canada's Genomic Applications Partnership Program (GAPP). The project's scientific team consists of co-leads Dr. Matthew Rise, Professor in

the Department of Ocean Sciences, Faculty of Science at Memorial, and Dr. Richard Taylor, Senior Research Scientist at Cargill Innovation Center, along with Dr. Mark Fast, Associate Professor in Fish Health at the Atlantic Veterinary College, UPEI.

Dr. Shelley Burton Represents the ASVCP in France



Dr. Shelley Burton had the honor as President to represent the American Society for Veterinary Clinical Pathology (ASVCP) at the Annual Congress of the European Society for Veterinary Clinical Pathology (ESVCP). The congress was held in from October 19-22nd in the beautiful city of Nantes, France. Dr. Burton gave an address at the business meeting, was involved in other volunteer congress activities and engaged in informal networking with European colleagues.

Photo legend:

Left to right: Dr. Kate English (Secretary, ESVCP), Dr. Shelley Burton, Dr. Peter Graham (President, ESVCP)

Congratulations to Drs. Gary Conboy, Paul Hanna and Fany Marron

A recent article on Canine Onchocerciasis, co-authored by two of our faculty members (**Dr's Conboy and Hanna**) and a recent graduate student (**Dr Marron**), was highlighted in the Fall 2016 Newsletter of the American College of Veterinary Microbiology (see below). The PEI connection was a dog from Summerside which had been purchased from a breeder in New Mexico and subsequently developed ocular onchocerciasis.



ACVM Diplomate Highlight: Four of our Parasitology Diplomates (Guilherme G. Verocai, Gary Conboy, Manigandan Lejeune, and John S. Gilleard with colleagues) published a dispatch in the August 2016 Emerging Infectious Diseases reporting on *Onchocerca lupi*, an emerging zoonotic parasite imported into Canada from endemic areas in the southwestern USA through importation of dogs. The article can be found at <https://wwwnc.cdc.gov/eid/article/22/8/pdfs/15-1918.pdf>.

Article taken from the Newsletter of the American College of Veterinary Microbiologists
Fall 2016 Volume 2 Issue 2.

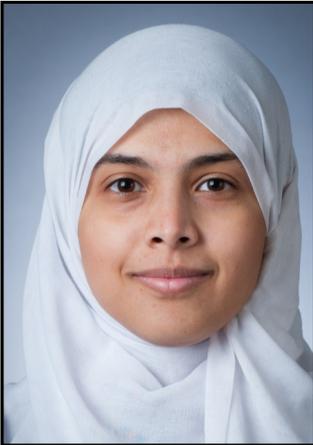
Continuing Education Course on Respiratory Pathology in Mexico



Dr. Alfonso Lopez was invited to participate in a continuing education course on respiratory pathology for veterinary practitioners and pathologists held on September 26-28 at the Faculty of Veterinary Medicine, National University of Mexico (UNAM) in Mexico City. Sixty-seven professionals from all parts of Mexico were in attendance including Dr. Aline Schunemann, professor and former "Boss" of Dr. Lopez in the early 70s. According to Dr. Lopez, *"It is lovely when you meet to discuss current issues of pathology with your teacher-boss, your former student, and the student of your student."*

Photo: Four generations of Pathologists. Dr. Aline Schunemann, Senior Professor (front right); Dr. Elizabeth Morales-Salinas (front left); Dr. Alfonso Lopez (rear-right); Fabiola Preza-Romero (rear left).

Welcome to Path/Micro Haifaa Mahjoub and Laura Carvalho



Haifaa Mahjoub is a PhD, student in Parasitology under the co-supervisors **Drs. Gary Conboy** and Spencer Greenwood. After completing her Master of Science degree in Arthropoda and Parasitism from the King Abdul Aziz University in Jeddah, Saudi Arabia she became a biology lecturer at King Abdul Aziz University in Rabig. She is currently on leave from her lecturer position in order to pursue fully funded national scholarship at UPEI. Her Masters of Science thesis was an assessment of the prevalence of intestinal parasitic infections among immunocompromised patients in Jeddah with specific focus on the pathogenicity of *Giardia lamblia* experimentally. In her research, immunocompromised patients were found to be more susceptible to parasitic infections. An experimental study was then done on mice to support the results of the human studies. Haifaa's research interests are in protozoa and helminths (lungworm) transmitted from uncooked food, contaminated water, and pets. Haifaa's husband, Waleed, is very supportive of the work she is doing in this field. Together they have two daughters, Khadija (6 years old) and Hanaa (3 ½ years old). Her hobbies are cooking and baking, and she loves to bless others by sharing what she's made.



Laura Carvalho is an MSc student supervised **Dr. Mark Fast**. Laura Carvalho, originally from Halifax, Nova Scotia, completed her BSc in biology at the University of Prince Edward Island in 2014. She specialized in life sciences with coursework in genetics and immunology. In her MSc program, Laura will be focusing on co-infections of *Lepeophtheirus salmonis* (sea lice) and the bacterium, *Moritella viscosa*, in Atlantic salmon. Laura also instructs several first-year biology lab sessions through the biology department at UPEI. She is a member of the UPEI Research Ethics Board. Outside of school, she enjoys playing soccer, swimming, art, and traveling.

Thank you to 2016 Pathology and Microbiology Summer Student Assistant



Marina Zadworny is a first-year veterinary student from Charlottetown. Before entering the veterinary medicine program at the AVC, she studied Biology and Chemistry at the University of Prince Edward Island. Marina spent the summer testing the divergent immunity hypothesis in *Oncorhynchus mykiss* under the supervision of Dr. Mark Fast. This hypothesis proposes that the life history strategy of an *O. mykiss* individual can be predicted by measuring the expression of genes involved in immunity. Marina's research involved the use of quantitative PCR assays to assess differences in expression of immunity-related genes in gills of resident (rainbow trout) and migrant (steelhead trout) *O. mykiss*. Her results provided evidence that several candidate genes show significant differences in expression at an early life stage (pre-release from the hatchery) between fish predicted to become migrant and fish predicted to remain resident.

Bat Week 2016

The last week of October was Bat Week; a celebration of all things batty and an opportunity to inform the public about the importance of bats. **Jordi Segers**, the Canadian Wildlife Health Cooperative's (CWHC) National Bat White-nose Syndrome Scientific Program Coordinator at the AVC teamed up with partners like Parks Canada Agency and the Canadian Wildlife Federation to organize nation-wide bat activities and develop outreach material for the general public. Combined, these agencies reached over 500,000 people through social media with bat-related messages. Eighteen Parks Canada sites also held bat activities during Bat Week and drew about 800 people in, which is very impressive considering October is the off-season for most Parks Canada sites. American partners developed Bat Squad videos, where children actively involved in bat conservation inspired kid conservationists. A celebratory event was held at the Central Park Zoo in New York to promote these videos, to announce a new bat conservation grant, and engage visitors in bat conservation. Social media users were also encouraged to submit their bat art, which was featured on the Bat Week Facebook page. Statistics from all partners are still being compiled, but it is already clear that Bat Week 2016 was an even bigger success than ever before.

For more details on Bat Week, visit www.batweek.org and <https://www.facebook.com/BatWeek/>
For CWHC Bat Week blog posts see:

A Short History of Bats in art: <http://blog.healthywildlife.ca/a-short-history-of-bats-in-art/>

White-nose Syndrome News of 2016: The good, the bad, the ugly: <http://blog.healthywildlife.ca/white-nose-syndrome-news-of-2016-the-good-the-bad-the-ugly/>



Mixed media drawing of a flying fox bat, by PEI artist Ashley Anne Clark.

Interview with bat artist Ashley Anne Clark: <http://blog.healthywildlife.ca/interview-with-bat-artist-ashley-anne-clark/>

Recent Publications

Forzán MJ, Smith TG, Vanderstichel RV, Hogan NS, Gilroy CV. Hematologic reference intervals for *Rana sylvatica* (*Lithobates sylvaticus*) and effect of infection with Frog Virus 3 (*Ranavirus* sp., Iridoviridae). *Veterinary Clinical Pathology* 2016: 45/3;430-443 DOI:10.1111/vcp.12393

Zolderdo AJ, Algera DA, Lawrence MJ, Gilmour KM, Fast MD, Thuswaldner J, Willmore WG, Cooke SJ. Stress, nutrition and parental care in a teleost fish: exploring mechanisms with supplemental feeding and cortisol manipulation. *Journal of Experimental Biology* 2016: 219; 1237-1248 doi.10.1242/jeb.135798.

Waititu SM, Yin F, Patterson R, Rodriguez-Lecompte JC, Naychoti CM. Short-term effect of supplemental yeast extract without or with feed enzymes on growth performance, immune status and gut structure of weaned pigs challenged with *Escherichia coli* lipopolysaccharide. *Journal of Animal Science and Biotechnology* 2016: 7:64 DOI 10.1186/s40104-016-0125-5.

Recent Publications Continued

Ruiz-Ramirez JA, Garcia-Marquez LJ, Bedolla-Alva MA, Salas-Garrido G, Ramirez-Romero R, Martinez-Burnes J, Lopez A. Congenital biliary atresia in a Beefmaster calf. Brazilian Journal of Veterinary Pathology, 2016;9:93-97.

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