UPEI UNIVERSITY of Prince Edward ISLAND

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CCWHC Participates in Animal Welfare Study, Hay Island, 2011

Canadian Cooperative Wildlife Health Centre (CCWHC) wildlife pathologist **Dr. Pierre-Yves Daoust,** graduate student **Dr. Heather Fenton** and Diagnostic Services technician **Leonard Doucette** had the opportunity to observe the annual grey seal (*Halichoerus grypus*) hunt on Hay Island, Cape Breton, in late February 2011. Hay Island is a small (1 km long) island near Sydney, Nova Scotia. During this year's hunt, the use of a 17 H.M.R. low-power ammunition to kill young seals at close range, as opposed to the traditional hakapik, was tested. Preliminary results gathered by CCWHC observers indicate that one shot rendered the animals lifeless in at least 90% of the cases. Dr. Daoust will continue to work closely with the sealers and Fisheries and Oceans Canada in order to maximize the welfare of these animals and ensure a humane hunt. By collaborating with the sealing associations, the CCWHC is also able to better understand diseases of the Canadian grey seals and thus monitor the health of their population.

Novel Methods of Control of Aleutian Disease of Mink

Dr. Arnost Cepica has been awarded a grant of $107,000 over three years by the Canadian Mink Breeders Association. The grant is for studies of the novel methods of control of Aleutian disease (AD) of mink . The disease is a devastating disease of mink all over the world. In spite of more than 40 years of history of the control through detection/removal methods, recently it had to be concluded that even when applied as recommended, the method is generally not able to eradicate the virus from the infected farms. Depopulation, followed by disinfection and repopulation by an AD virus free breeding mink has also been largely unsuccessful due to the problems with both the quality assurance of the repopulating breeding animals, as well as failure to protect the farms from reintroduction of the virus. The proposed method represents a major departure from current thinking, by abandoning detection / removal, and concentrating on selection of breeding animals for markers of disease resistance. The study will identify phenotypic markers of AD resistance, apply them, and evaluate their usefulness in on-farm breeding programs. The hypothesis for the method is based on the well-known historic examples of co-evolution of highly pathogenic viruses and highly susceptible hosts such as myxomatosis virus and rabbit hemorrhagic disease in Australia, which in time lead to development of increased host resistance on one hand, decreased pathogenicity of the virus on the

other hand.

The World Conference on Wildlife "Animal Health and Biodiversity" in Paris

Photo: OIE Focal Points for Wildlife Marta Hernandez (Nicaragua), Maria Forzan (CCWHC), Alejandra Lozano (Uruguay) and Andrea Marcos (Argentina).

The World Conference on Wildlife "Animal Health and Biodiversity – Preparing for the Future", was held in Paris, France, from the 23rd-25th of February, 2011. World experts in wildlife, human and domestic animal health examined the growing emergence and re-emergence of pathogens from wild and domestic animals, and their spread into human populations. Over 400 participants from more than 100 countries came from various sectors, including official national and international authorities, international, regional, national and non-governmental organizations, and the private sector. Dr. Maria Forzan attended as the representative of the Canadian Cooperative Wildlife Health Centre (CCWHC). The CCWHC, as an OIE Collaborating Centre, is in charge of organizing workshops for the OIE Wildlife Focal Points all around the world; the first round of workshops took place in 2009-2010, the second will begin in October of this year. Maria had the opportunity not only to hear a few exceptional presentations from world experts, but also to touch base with the Latin American focal points who she met in 2009. Through Maria, the CCWHC has remained in contact with many Latin American representatives, supporting their efforts to create wildlife surveillance programs in their home countries.

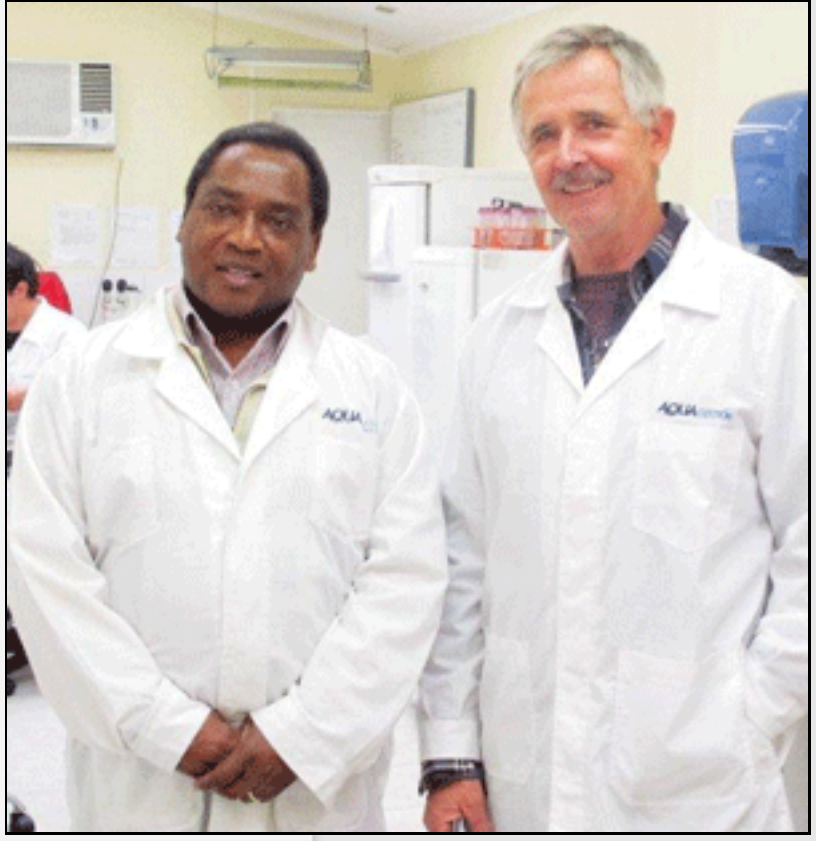
Molecular Assays for Early Detection of High Risk Tunicate Propagules

Dr. Sarah Stewart-Clark and Dr. Spencer J. Greenwood were successful in obtaining funding from Innovation PEI Pilot Fund for their project entitled "Development of Molecular Assays for Early Detection of High Risk Tunicate Propagules in Environmental Water samples: Protecting against future invasions". The value of the grant is $25,000. This project aims to create 16 novel and commercial molecular assays based on unique gene sequences in individual species of invasive tunicates. These assays will facilitate high-throughput screening of environmental water samples for the surveillance of invasive tunicates that are a high risk for future invasion to PEI. There are currently no other molecular methods available that have been validated to detect these species of invasive tunicates from environmental water samples. The development of such molecular assays would not only be used to protect PEI waters from these invasive species, they could also be of interest to other regions of the world who are also responding to heavy invasive tunicate fouling in aquaculture areas. In addition, assays could be used in the shipping industry to screen ballast water samples for invasive tunicate propagules and in the processing industry to ensure that effluent water from fish processing plants do not contain and spread invasive tunicate eggs and larvae.

Update on Viral Diseases, Heart and Infectious Salmon Anaemia

Dr. Fred Kibenge travelled to Chile from January 10 to 14, 2011, to

participate in scientific meetings at the invitation of Aquagestion S.A. A workshop titled "Update on viral diseases, heart and infectious salmon anaemia" was held in Puerto Montt, Chile, for aquaculture veterinarians, farm managers, and diagnostic laboratory personnel. Dr. Kibenge was one of three international scientists invited to present at the workshop. His talk was titled "The new finding regarding the molecular epidemiology of ISAV" and focused on the evolution of virulent ISAV to the avirulent virus termed HPR0 virus in all salmon farming regions where ISAV is endemic. Dr. Oystein Evensen from the Norwegian School of Veterinary Science, Oslo, Norway, presented on "Sequential pathology and possible etiology of heart and skeletal muscle inflammation (HSMI) of Atlantic salmon" and on "Pathology and viral etiology of cardiomyopathy syndrome of salmonids CSM and Pancreas disease PD. The third speaker, Dr. Juan Kuznar from the University of Valparaiso, Valparaiso, Chile, presented on circumstances of infectious pancreatic necrosis virus (IPNV).



Dr. Fred Kibenge and Dr. Juan Kuznar on tour of the Aquagestion Diagnostic Lab in Puerto Montt following the workshop.

Exotic and Aquatic Animal Medicine Course

Dr. Gerald Johnson taught in the annual Exotic and Aquatic Animal Medicine course from January 3-14, 2011 at St. Georges University in Grenada. The target audience includes veterinary students, graduate students and practicing veterinarians. Each year the topic focus changes and the 2011 course dealt with pet fish and pet bird practice while the 2010 course was reptiles and fish. Each section focuses on the topic for 5 days, allowing participants full exposure to the species involved. Class size is limited to 24 participants as laboratory sessions are "hands on" involving handling, clinical sampling, necropsy and surgery. This is the 5th consecutive year the course has been given.

Invited Speaker at the University of Colima

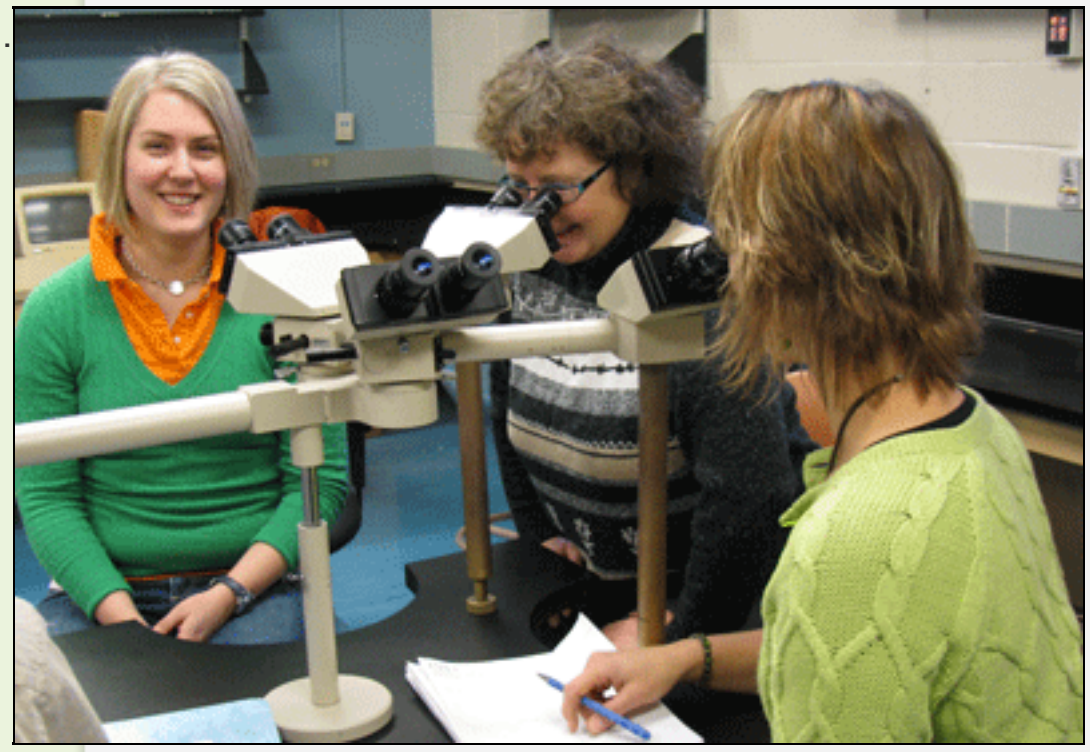
Dr. Alfonso Lopez was invited as a speaker to the 1st International International Symposium of Biological and Animal Sciences organized by the University of Colima in the Northwest of Mexico. His presentation was entitled “Current Views on Bovine Pneumonia.” The meeting took place in the small rural town of Tecoman during February 15-19, 2011. As part of his visit to the Colima’s Veterinary College, Dr. Lopez met with Dr. Ruben Lopez-Crespo and reviewed his progress on the research project entitled “Pulmonary Lesions in Opossum (*Didelphis virginiana)* caused by *Didelphistrongylus hayesi,* a nematode highly prevalent in the lungs of this marsupial. Dr. Lopez is an external member of the graduate supervisory committee.

Photo: Dr. Rafael Ramirez, University of Nuevo Leon, Dr. Alfonso Lopez and Dr. Luis Jorge Garcia-Marquez, University of Colima

Canadian Public Health Laboratory Network Assessment Exercise

Drs Anne Muckle and J McClure participated in the Canadian Public Health Laboratory Network Assessment Exercise for Prince Edward Island on Wednesday February 16th, at the Delta Hotel, Charlottetown.

Pathology Group Welcomes Back Dr Lesley Zwicker



The clinical and anatomic pathology group welcomed back **Dr. Lesley Zwicker** for a week of pathology experience in January. Dr. Zwicker is from Nova Scotia and is both a pharmacist and a veterinarian. She graduated in the AVC Class of 2010 and notably received the Pathology Achievement Award for top academic performance in undergraduate pathology courses. Dr. Zwicker is completing a one year small animal internship at the Western College of Veterinary Medicine in Saskatoon and is looking forward to returning to the AVC in July when she starts her residency and graduate training in radiology.

Recent Publications

Ramirez-Romero R, Chavarria B, Nevarez Garza A, Rodriguez-Tovar LE, Davila C, Hernandez-Vidal G, Hernandez EJJ, Lopez A. Immunohistochemical demonstration of *Mycoplasma bovis* in chronic pneumonic lesions in feedlot cattle. Rev Vet Mex 2010: 41:289-296.

Jeon B, Wang Y, Hao H, Barton YW, Zhang Q. Contribution of CmeG to antibiotic and oxidative stress resistance in *Campylobacter jejuni.* Journal of Antimicrobial Chemotherapy 2011; 66:79-85.

Departmental Seminars

March 8	The Effect of IL-18 on the Activation of Natural Killer Cell Immunity and Its Relevance in Breast Cancer Progression	Gailene Tobin Biomedical Sciences
March 15	The effects of altered brain development on attentional processes in rats	Amber Marriott Biomedical Sciences
March 22	Effects of forced-use movement therapy on post-ischemic neuroplasticity	Jessica Livingston-Thomas Biomedical Sciences
March 29	GPCR signaling in mast cell function: role in innate immune modulation of inflammation	Priyanka Pundir Biomedical Sciences
April 5	The analysis of gene expression in endosulfan exposed *H. americanus* larvae using an oligonucleotide microarray	Mehan Bauer Pathology and Microbiology
	Pathogenesis of Bitter Crab Disease in Snow Crabs	Melanie Boute Pathology and Microbiology
April 12	Androgen receptor a (ARa) mRNA expression in three-spined stickleback	Brad Scott Biomedical Sciences
April 19	Sub-lethal impacts of process-affected waters in the Athabasca oil sands on anative fish species, the white sucker (*Catostomus commersonii*)	Collin Arens Biomedical Sciences
April 26 3:00pm	Evaluating the time and frequency and cost benefit analysis of high pressurewater treatment regimes on *Ciona intestinalis* infested mussel socks.	John Davidson Pathology and Microbiology
	Catch-as-Catch-Can: Considerations Regarding Wildlife Capture and Handling	Whitney Kelly-Clark Pathology and Microbiology

	Profiling gene expression in female Homarus americanus via oligonucleotide microarray analysis	Mitchell Moore Pathology and Microbiology
May 3	Understanding P-glycoprotein mediated drug resistance in *Lepeophtheirus salmonis*	Okey Igboeli Biomedical Sciences

Funding News

The online tutorials for potential student (USRA) applicants are now available on the NSERC website at: http://www.nserc-crsng.gc.ca/Students-Etudiants/Tutorial-Tutoriel/Tutorial-Tutoriel_eng.asp

Post Doctoral Research Fellowships (PDRF) offered through Foreign Affairs and International Trade Canada (DFAIT): Program description including eligibility requirements and application information can be found on the Government of Canada's International Scholarships website at www.scholarships.gc.ca

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For comments or suggestions for our newsletter, please contact
Dr. Alfonso Lopez (902) 566-0943
lopez@upei.ca

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