

NSERC Strategic Research Network of 15 million dollars



As part of a recently announced NSERC Strategic Research Network into integrated multitrophic aquaculture, which has received federal funding of 15 million dollars (along with substantial matching support from industry) over the next five years, **Drs Dave Speare** and **Nicole Guselle** will be heading up an area of research looking into the transmission dynamics of pathogens within this novel type of sustainable aquaculture. In contrast to current practices of netpen salmon aquaculture in which uneaten fish feed and fish wastes pose a potential threat to the environment surrounding fish farms, multitrophic aquaculture seeks to capture these outputs through a polyculture approach in which extractive species such as mussels, and primary producers such as seaweeds, are co-cultivated on sites with salmon production. This approach holds the potential to reduce the degree to which salmon farms impact the immediate ocean environment. However, little is known about how this type of fish farming may affect the transmission of aquatic pathogens either between netpens of farmed fish, or between farmed fish and nearby wild fish. Using laboratory models of disease transmission modified to reflect multitrophic settings, the microsporidian *Loma salmonae* - a significant pathogen of farmed salmon - will be used as a probe to evaluate the degree to which transmission and persistence of a spore-based pathogen is altered within a multitrophic setting. This project will receive direct funding of \$250,000 and will provide funds for several graduate students over the next five years. The NSERC Canadian Integrated Multitrophic Aquaculture Network (CIMTAN) for the development of responsible aquaculture has been established at the University of New Brunswick under the leadership of Dr Thierry Chopin, and is a strategic partnership that facilitates research involving university researchers, industry and government with projects focused on developing balanced and sustainable systems for aquaculture species.

CCWHC gets a Grant from the Sir James Dunn Animal Welfare Centre

Dr Scott McBurney (Canadian Cooperative Wildlife Health Centre, CCWHC), along with co-investigators **Drs María Forzán, Spencer Greenwood** (Lobster Science Centre) and **Raphael Vanderstichel** (Center for Veterinary Epidemiological Research), obtained a grant from the Sir James Dunn Animal Welfare Centre. Dr McBurney was awarded a 2-year research grant of \$57,430. The project supports an MSc student and will focus on trichomoniasis, an emerging disease in wild finches that has been present in the Maritimes since 2007. Trichomoniasis causes lesions to the mouth and upper digestive tract of birds that results in their inability to swallow, causing eventual death from emaciation. Trichomoniasis (or trichomonosis) has also emerged in wild passerines in Britain (since 2005), Scandinavia (2008) and The Netherlands (2009). For more information [click here](#).



Photo Courtesy of Dwaine Oakley

Successful PhD Theses Defense

Mebrahtu Araya successfully defended his PhD thesis (*In-vitro* model of interaction between *Vibrio splendidus* and hemocytes of soft-shell clams, *Mya arenaria*) on March 1, 2010. Mebrahtu was supervised by **Dr Fred Markham** and **Dr Franck Berthe**. **Dr Dave Speare** chaired the Examination Committee, and the External Examiner was Dr Bassem Allam from the School of Marine and Atmospheric Sciences, Stony Brook University, New York.

Sarah Stewart-Clark successfully defended her PhD thesis (Molecular assays for the detection of invasive tunicates and phylogeography of a tunicate invasion in Prince Edward Island) on March 12, 2010. Sarah was co-supervised by **Dr Spencer Greenwood** and **Dr Jeff Davidson**. **Dr Dave Speare** chaired the Examination Committee, and the External Examiner was Dr John Darling from the US Environmental Protection Agency in Cincinnati, Ohio.

Dante Mateo successfully defended his PhD thesis (*In vivo* model of the response of soft-shell clam (*Mya arenaria*) haemocytes differentially induced by 2 strains of *Vibrio splendidus*) on March 29. Dante was co-supervised by **Dr Spencer Greenwood** and **Dr Gerry Johnson**. **Dr Paul Hanna** chaired the Examination Committee, and the External Examiner was Dr Michel Fournier, Canada Research Chair (Tier 1) in Environmental Immunotoxicology, INRS-Institut Armand-Frappier, Université du Québec.

International Meeting on Higher Education



Dr Alfonso López was a keynote speaker at the International Meeting on Higher Education held in San Jose, Costa Rica, on March 8-12, 2010. Sponsored by the Universidad Nacional de Costa Rica and West Chester University of Pennsylvania, this meeting gathered over 100 international educators to discuss current trends in postsecondary education focusing primarily on International Education and "Knowledge Without Borders." Dr Oscar Arias, President of Costa Rica and 1987 Nobel Peace Prize, opened this meeting with a memorable presentation. Dr. López's presentation was entitled "Trends in Veterinary Education in Canada and Latin America." During his visit to Costa Rica, Dr López was invited by Dr Jorge Quiros, former Dean of the Veterinary College in Heredia, and Dr Juan Morales, Department of Pathology, to give 3 lectures to veterinary students to illustrate how pathology is taught at AVC and how multimedia, internet and virtual microscopy are used in the Canadian veterinary curricula.

Novartis Research Chair in Fish Health joins the Atlantic Veterinary College

The Atlantic Veterinary College at the University of Prince Edward Island (UPEI) is pleased to announce the appointment of **Dr Mark Fast** to the role of Novartis Research Chair in Fish Health. For more information please check the following news release: [Click here](#) (PDF file).

Recent Publications

Dacanay A., Boyd, J.M., Fast, M.D., Knickle, L.C., and Reith, M.E. 2010. *Aeromonas salmonicida* type I pilus system contributes to host colonization but not invasion. *Diseases of Aquatic Organisms* 88:199-206.

Pasick, J., Berhane, Y., Kehler, H., Hisanaga, T., Handel, K., Robinson, J., Ojkic, D., Kibenge, F., Fortin, M., King, R., Hamel, A., Spiro, D., Parmley, J., Soos, C., Jenkins, E., Breault, A., Caswell, D., Davies, C., Rodrigue, J., McAloney, K., and Leighton, F. 2010. Survey of Influenza A Viruses Circulating in Wild Birds in Canada 2005 to 2007. *Avian Diseases* 54:440-445

Bradford M.J., Lovy, J., Patterson, D.A., Speare, D.J., Bennett, W.R., Stobbart, A.R., and Tovey, C.P. 2010. *Parvicapsula minibicornis* infections in gill and kidney and the premature mortality of adult sockeye salmon (*Onchorhynchus nerka*) from Cultus Lake, British Columbia. *Can. J. Fish. Aquat. Sci.* 67:673-683.

Education in Developing Countries: How UPEI and AVC can make a difference

Dr Alfonso Lopez presented recently a seminar in the Brown Bag Lunch series on education organized

by the WebsterCentre at UPEI. This is an excerpt of this presentation:

Universities' roles in international assistance have been traditionally in educating international students in Canada, and to a lesser extent implementing projects in developing countries that are funded by governmental organizations such as the Canadian International Development Agency (CIDA). Insufficient funding is undoubtedly the single largest obstacle to helping foreign institutions. However, the rapidly growing access to the Internet in developing countries has opened an extraordinary opportunity to help students in underprivileged universities at practically zero cost. In his presentation Dr Lopez gave specific examples on how UPEI instructors could make a substantial difference worldwide. He also challenged some of the myths surrounding "education informatics." In helping underprivileged students it is not money that is needed, but the most precious commodity of contemporary professorship: time!

Abstracts and Presentations

Stewart-Clark SE, Greenwood SJ, Davidson J. Three levels of early detection. PEI Aquaculture Alliance Technical Day. March 11, 2010, Cornwall, PEI.

Willis J, Stewart-Clark SE, Greenwood SJ, Davidson J, Quijon P. *Diplosoma listerianum*: A new tunicate threat. PEI Aquaculture Alliance Technical Day. March 11, 2010. Cornwall, PEI

Willis JE, Stewart-Clark S, Greenwood SJ, Davidson J, Quijon P. Development of a Molecular Assay for the Detection of the invasive tunicate *Diplosoma listerianum* in Water Samples. Atlantic University Biology Conference, Fredericton, NB, March 5-7, 2010.

Greenwood SJ. Lobster DNA microarrays: Fishing for Biomarkers. Dept. of Biology Seminar Series. Mar. 2, 2010.

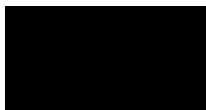
Upcoming Events

Graduate Studies and Research Days, May 13-14, 2010

The "Prato Conference on the Pathogenesis of Bacterial Diseases of Animals" Monash Prato Campus, Prato Italy October 6-9, 2010. For further information please visit the [official web site](#).

Important Deadlines

1. Atlantic Veterinary College - University of Prince Edward Island Graduate Scholarship Program (Graduate Scholarship Award, and DVM Graduate Scholarship Award): Monday April 12, 2010.
2. AVC Nominations for the Governor General's Award in Graduate Studies: Friday April 16, 2010



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For comments or suggestions for our newsletter, please contact Alfonso Lopez

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