



**Pathology & Microbiology Newsletter**  
**Bi-monthly News Bulletin**  
**Atlantic Veterinary College**  
**University of Prince Edward Island**  
Issue 27, November - December 2012

**UPEI**  
UNIVERSITY  
of Prince Edward  
**ISLAND**

**The Chair's End of Year Message  
and Holiday Greetings**

This is my fourth end of year message, and third department report card. The department performance indicators remain strong as exemplified by the following sample of achievements of our faculty, staff and students in the areas of teaching, research and service:

Dr. Shelley Burton and Dr. Gary Conboy were promoted to the rank of Full Professor. The diligent work of the 2011 Departmental Review Committee (DRC) in that process is acknowledged. Dr. Fred Markham served as Secretary of that DRC.

Dr. Gerry Johnson was granted the distinction of *Professor Emeritus* at UPEI at the May 12, 2012 convocation.

Dr. Alfonso Lopez was presented with the 2011 Janet Pottie Murray Award for Educational Leadership (a University-level award adjudicated by SCENT) on February 3, 2012. He followed this with a seminar titled "*Education in Developing Countries: How Canadian Universities Can Make a Difference.*"

Dr. Paul Hanna received the 2012 Pfizer Carl J. Norden Distinguished Teacher Award, the highest teaching award given by each North American Veterinary College; his presentation in the AVC Seminar Series 2012-2013, was titled "*Reflections on 25 years of teaching at the Atlantic Veterinary College*".

Dr. Shelley Burton was the recipient of the 2012 Canadian Veterinary Medical Association Teacher of the Year Award, which is based on a class vote for the faculty member most influential in promoting the interest and enthusiasm of second year students in veterinary medicine.

Dr. Gary Conboy received the 2012 Presidential Recognition Award of Merit in the category of Combined Achievements (in Teaching, Scholarly Endeavours, and Service) at UPEI.

Kathleen Jones was awarded the 2012 AVC Staff Merit Award.

Our MVSc-Resident Programs are highly sought worldwide. Training residents is a team effort of our entire pathology faculty. Drs Shannon Martinson, Andrea Bourque, Maria Forzan, Melanie Buote, Noel Clancey and Cora Gilroy deserve our unreserved recognition and appreciation for their efforts in maintaining the high training standards that contribute to the continued success of these programs.

Dr. Arnost Cepica was invited by the Animal Biosecurity program of Canadian Food Inspection Agency to serve on the Canadian National Mink Biosecurity Advisory Committee.

Several faculty members were successful in obtaining research funding this year. Most notable is Dr. Mark Fast

whose success is unprecedented: he was awarded an NSERC Discovery Grant and an ACOA-AIF through Novartis Animal Health with significant contribution from Innovation PEI D&C, and a second ACOA-AIF through the Coastal Zones Research Institute in New Brunswick with Dr. David Groman.

The department welcomed Dr. Juan Carlos Rodriguez-Lecompte in his position as Associate Professor, Immunology. Dr. Chelsea Martin was recruited as Assistant Professor, Anatomic Pathology, and we look forward to welcoming her early in the New Year. We anticipate filling the vacant tenure-track Bacteriology position early in the New Year.

The department welcomed Liz Rostant-MacArthur as Senior Technologist in Central Services Laboratory, one MSc graduate student (Jordan Poley), four visiting students (Selene Ivette Salazar-Colunga and Sofia Rosales-Martinez from Mexico; Dr. Maziel Arauz, Assistant Professor, Ross University, St Kitts and Nevis; Larissa Kipa from Michigan State University), and nine visiting professors (Drs Ian Bricknell, Sarah Barker, Tim Bowden and Anne Langston from University of Maine; Dr. Matt Rise from Memorial University of Newfoundland; Dr. Christoph Borchers from University of Victoria-Genome BC Proteomics Centre; Dr. Maribel Quiroga, Professor of Pathology at the Faculty of Medicina Veterinaria, Universidad de Santiago de Compostela, Lugo, Spain; Dr. Richard "Mick" Fulton, from the Diagnostic Centre for Population and Animal Health at Michigan State University; Dr. Kirstin Barnhart from Abbott Laboratories, Chicago).

Our graduate students excelled in several ways:

Victoria Savoie-Swan (Dr. Fred Markham and Dr. Neil Ross, NRC-IMB, Halifax) successfully defended her PhD Thesis.

The following graduate students successfully defended their MSc Theses: Jennifer Harkness (Dr. David Speare); Dan Hines (Dr. Spencer Greenwood, Biomedical Sciences); Kylie Muio (Dr. Jeff Lewis); Whitney Kelly-Clark (Dr. Scott McBurney and Dr. Spencer Greenwood); Megan Bauer (Dr. Spencer Greenwood and Ms Paula Jackman, Environment Canada, Moncton).

Dr. Maria Forzan, PhD candidate (Dr. Pierre-Yves Daoust and Dr. Fred Markham) was awarded NSERC Postgraduate Scholarship PGSD3.

Dr. Okechekwu Igboeli (PhD candidate with Dr. Fast in Biomedical Sciences) was awarded a Postdoctoral Fellowship, and Heather Wotton (MSc candidate) was awarded a Graduate Student scholarship in the 2012 Innovation PEI Graduate Student and Postdoctoral Fellowship Program.

Dr. Heather Fenton, MVSc/Resident student (Dr. Pierre-Yves Daoust and Dr. Maria Forzan) was an invited guest speaker for the Prince Edward Island Trapper's Association Annual General Meeting, January 7, 2012.

At the Graduate Studies and Research Days on May 8, 2012, Fraser Clark, PhD student (Dr. Spencer Greenwood, Biomedical Sciences) was awarded The John and Carol MacLeod Award for Research Communication Excellence, and The Dr. Douglas W. Ehresmann Graduate Award for a student performing outstanding research in some aspect of virology. Dr. Dania Villarnovo, MVSc/Resident student (Dr. Shelley Burton and Dr. Barb Horney) was awarded The Dr. Basil Ikede Graduate Award in Diagnostic Veterinary Sciences, and The Bronze Prize in Paper Presentations in the topic category of Animal Health Research.

Sarah McConnachie, PhD student (Dr. David Speare) was awarded first place in the poster session at the Aquaculture Association of Canada annual meeting, May 27-30, 2012.

Dr. Dania Villarnovo, MVSc/Resident in Clinical Pathology was the recipient of the 2012 Charles Louis Davis Foundation Student Scholarship Award. This award is given to a resident/graduate student of an institutional member who has displayed superior scholarship, leadership, research ability or diagnostic skills. As an award recipient, Dania was invited to attend the Awards Reception on December 3, 2012, at the combined ACVP/ASVCP annual meeting in Seattle, Washington, to receive her plaque. This award also includes a one-year free



membership in the Foundation.

We bid fond farewell to Dr. Byeong Hwa Jeon, Dr. Sarah Stewart-Clark, Laura DeVries, and Kara McIsaac who moved to other positions or institutions.

The department maintains very strong links with the AVC Diagnostic Services Laboratory, in which the majority of Pathology and Microbiology faculty carry out their service functions. In April this year, we were all pleased to see Dennis Olexson, founding Manager of Diagnostic Services, honoured by UPEI with the 25 Year Employee Service Award. In November we bid fond farewell to Dennis upon his retirement from UPEI.

We acknowledge and appreciate the effective administrative support of Rita Saunders and Diane MacLean. Together, we have achieved so much to cheer about in 2012; a predictor for even more successes in our teaching, research and professional service functions in 2013.

Finally, on behalf of all in the Department of Pathology and Microbiology, I congratulate new parents this year: Sarah (and Thomas) Ogilvie on the birth of their first child, 'Townsend Holton Ogilvie'; Dr. Melanie Buote on the birth of her second child, 'Samuel' Felix Buote Mills.

**What a year it has been!**

**Wishing you all Peace and Happiness this Holiday Season, and a Healthy and Prosperous 2013!**

**Fred Kibenge.**

### *Minke Whale Necropsy in Annandale, Prince Edward Island*



On November 22, 2012, an adult male minke whale (*Balaenoptera acutorostrata*) 7.4m long was necropsied by volunteers and staff of the Canadian Cooperative Wildlife Health Centre (CCWHC), Atlantic regional node in Annandale, Prince Edward Island. Unfortunately, as is common in cetacean mortalities, severe post mortem decomposition of the carcass prevented an accurate diagnosis of the cause of death from being determined. Measurements and tissue samples were taken as there are few opportunities to understand the unique biology of these interesting creatures. Participants in the necropsy included: **Dr. Heather Fenton, Dr. Shannon Martinson, Fiep deBie, Dr. Ana Gradil, Darlene Weeks**, Lauren Bowler and Ali Frye. Holland College Wildlife Conservation Technology students were also able to observe the necropsy and learn about the biology of minke whales as well



as necropsy techniques.

## Pathology Training of Large Animal Clinical Residents



Dr. Diego Gomez

Dr. Andrea Bourque

Dr. Cora Gilroy

Dr. Jennifer Burns

Dr. Catherine Radtke

The large animal internal medicine, surgery and equine ambulatory residents enjoyed an intensive week of pathology training from December 10-14th. The primary focus was on clinical pathology and **Drs. Shelley Burton, Cora Gilroy, Noel Clancey and Barb Horney** led these sessions. Anatomic pathology training was additionally provided by **Drs. Paul Hanna, Andrea Bourque and Shannon Martinson**, with the residents also attending histopathology and gross rounds. This week partly or fully met the requirement for time spent with American College of Veterinary Pathologists (ACVP) boarded pathologists in residency programs accredited by the American College of Veterinary Internal Medicine (ACVIM) and the American College of Veterinary Surgeons (ACVS).

## Recent Publications

Marancik DP, Leary JH, Fast MM, Flajnik MF, Camus AC. Humoral response of captive zebra sharks *Stegostoma fasciatum* to salivary land proteins of the leech *Branchellion torpedinis*. *Fish & Shellfish Immunology* 2012; 33: 1000-1007.

McConnachie SH, Guselle NJ, Speare DJ. Retention of viable microsporidial (*Loma salmonae*) spores within the blue mussel (*Mytilus edulis*): Use of an experimental laboratory model probing pathogen transfer within a multi-trophic aquaculture setting. *Aquaculture* 2013;376: 1-5

McConkey S, Saunders J, Speare DJ. Comparison of NADH-dependent cytochrome b5 reductase activity and in vitro methemoglobin induction by sodium nitrite in *Oncorhynchus mykiss*, *Salmon salar*, and *Salvelinus fontinalis*. *Fish Physiology & Biochemistry*. 2012;

Covello JM, Friend SE, Purcell SL, Burka JF, Markham RJF, Donkin AW. Effects of orally administered immunostimulants on inflammatory gene expression and sea lice (*Lepeophtheirus salmonis*) burdens on Atlantic salmon (*Salmo salar*). *Aquaculture* 2012;366-367: 9-16.

Purcell SL, Friend SE, Covello JM, Donkin A, Groman DB, Poley J, Fast MD. CpG inclusion in feed reduces sea lice, *Lepeophtheirus salmonis*, numbers following re-infection. *Journal of Fish Diseases* 2012; Epub

## Departmental Seminars for the Winter Semester

Ben Perry	Anti-Obesity Efficacy and Mechanism of a Chinese Herbal Formulation	January 8	Biomedical Sciences
Collin Arens	Sub-lethal effects of oil sands development on white sucker in the Athabasca watershed	January 15	Biomedical Sciences
Open		January 22	

Dr. Daphne Gill	Lab rats speak out: Designing a behavioural test battery for assessing autism-like symptoms in rodents	January 29	Biomedical Sciences
John Onukwufor	Interactions of Cadmium with Temperature and Hypoxia on Mitochondrial Bioenergetics in Rainbow trout, <i>Oncorhynchus mykiss</i>	February 5	Biomedical Sciences
Dr. Dania Villarnovo	Avoiding Transfusions Reactions in Dogs: Evaluation of a Commercially Available Cross-matching Kit	February 12	Pathology Microbiology
Jessica Willis	Occurrence of Cryptosporidium and Giardia in oysters ( <i>Crassostrea virginica</i> ) from Hillsborough Harbour (Prince Edward Island)	February 19	Biomedical Sciences
Brad Scott	Ligand-receptor characterization of a novel androgen receptor in three-spined stickleback	February 26	Biomedical Sciences
Erin McCauley	Microbial communities associated with the zooxanthellae and larvae of <i>Pseudopterogorgia elisabethae</i>	March 5	Biomedical Sciences
Alyssa Grunwald	Establishment of a microbial library for natural product discovery from arctic sediment	March 12	Biomedical Sciences
Jordan Poley	Molecular pathways involved in sea lice ( <i>Lepeophtheirus salmonis</i> ) resistance to chemotherapeutants		Pathology Microbiology
Gailene Tobin	The Effects of Interleukin-18 on Natural Killer Cell Mediated Cytotoxicity in the Development and Progression of Breast Cancer	March 19	Biomedical Sciences
Xiafeng Wang	n-3 polyunsaturated fatty acid (PUFA) disruption of FcεRI aggregation in lipid rafts inhibits mast cell activation	March 26	Biomedical Sciences
Heather Wotton	Effect of <i>in vitro</i> exposure of an anti-attachment compound on <i>Lepeophtheirus salmonis</i> gene expression	April 2	Pathology Microbiology
Dr. Ana Gradil	Comparative immunological development and responses in lower vertebrates - Shortnose and Atlantic sturgeon		Pathology Microbiology

### Message from the Editor

I would like to thank all of you for your contributions and support to our Path Micro Newsletter and special thanks for **Dr. Shelley Burton**, **Dr. Maria Forzan** and **Dr. Fred Kibenge** who have been invaluable with editorial revisions. In 2013 we will be starting our 5th year of on-line publication. Should you have any suggestions on how to improve this newsletter, please let us know. I should also take this opportunity to wish all of you a 2013 filled with *salud*, *amor y prosperidad* which the glyphs of the new Mayan calendar simply translate into happiness (*felicidad*).

Sincerely, Alfonso Lopez

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

**For comments and suggestions please contact us by e-mail:**

**Editor:** [Dr. Alfonso Lopez](#)

**Reviewers:** **Dr. Maria Forzan & Dr. Shelley Burton**

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