64th Annual Meeting of the American College of Veterinary Pathologists and the 48th Annual Meeting of the American Society of Veterinary Clinical Pathology 2013

Montreal, Quebec, Canada
16-20 November 2013

ISBN: 978-1-63266-017-6
TABLE OF CONTENTS

ASVCP EDUCATION SYMPOSIUM: IT’S ELEMENTARY: EVIDENCE BASED CYTOLOGY

Evidence Based Cytology. What’s Evidence? ...................................................................................................................... 1
Carlo Masserdotti

The Evidence Based Approach To The Evolving Practice Of Diagnostic Cytopathology And Resident Training: Focused Topics And Issues ...................................................................................................................... 7
Gordon H. Yu

Quality Assessment And Improvement In Cytology ................................................................................................................... 8
Dina R. Mody

Historical Overview of Evidence-Based Diagnostic Cytology Including Bone Marrow in Veterinary Medicine ............................................................................................................................................................... 32
Rose E. Raskin

CAREER DEVELOPMENT: I WAS NOT TRAINED FOR THIS!

Career Development: Running a State Diagnostic Laboratory ........................................................................................................ 42
Frederic J. Hoerr

Directing A Division At A Contract Research Organization (CRO) .......................................................................................... 46
Kevin S. McDorman

Supervising A Combined Residency/Graduate Research Training Program ........................................................................ 49
Paul C. Stromberg

Developing and Leading a Core Facility ........................................................................................................................................ 54
Kelli L. Boyd, Krista M. D. La Perle

MINI-SYMPOSIUM: PATHOLOGY AND TOXICOLOGY OF THERAPEUTICS

Examples of Histopathology from Preclinical Cellular Therapy Studies ..................................................................................... 59
Julia F. M. Baker

Pathology of Antisense Oligonucleotides ........................................................................................................................................ 64
Cecile Sobry

Thinking Small: New Approaches for Evaluating the Toxicologic Pathology of Nanotechnology Products ........................................................................................................................................................................ 68
Ann F. Hubbs, Linda M. Sargent, Krishnan Sriram, Timothy R. Nurkiewicz, Vincent Castranova, Dale Porter,
Steven H. Reynolds, David Lowry, Kara L. Fluharty, Robert R. Mercer

NATURAL DISEASE FOCUSED SCIENTIFIC SESSION I

“One Health, One Medicine” Beluga Whales of the St Lawrence, our Marine Sentinels .............................................................. 80
Daniel Martineau

EMERGING DISEASE FOCUS SEMINAR

Clinical Signs, Epidemiology, Pathology and Diagnosis of an Emerging Teratogenic Vector Borne Viral Disease of Ruminants – Schmallenberg Virus as an Example ........................................................................ 89
Peter D. Kirkland

ASVCP VETERINARY LABORATORY PROFESSIONALS SESSION I

Quality Assessment and Improvement in Cytology ........................................................................................................................ 94
Dina R. Mody
Methods of Reticulocyte Quantification & Reporting ................................................................. 95
Melinda C. Camus

Reticulocyte Indices in the Assessment of Iron Availability .......................................................... 99
Andrea A. Bohn

CLINICAL PATHOLOGY FOCUSES SCIENTIFIC SESSION I

Loss Of Imprinting At The 14q32 Locus In Osteosarcoma .......................................................... 101
Jingmin Shu, Lihua Li, Branden Moriarity, Venugopal Thayanithy, Logan Spector, David Largaespada, Clifford J. Steer, Subbaya Subramanian

INDUSTRIAL AND TOXICOLOGIC PATHOLOGY FOCUSED SCIENTIFIC SESSION I

Microhemorrhage, Alzheimer’s Disease and the Use of Animal Models in its Assessment .................. 102
Robert W. Dunstan, Diana Fahrer, Stefan Hamann, Catherine Quigley, Xueli Zhang, Marian Themeles, Thierry Bussiere, Michael Grunkin, Johan Dore

NATURAL DISEASE FOCUSED SCIENTIFIC SESSION II

Bovine Neonatal Pancytopenia and Beyond .................................................................... 109
Sandra F. E. Scholes

Canine Respiratory Disease Complex: More Complex Than We Thought ........................................... 117
Edward J. Dubovi

ACVP AND ASVCP JOINT PLENARY SESSION: EPIGENETICS: UNDERSTANDING THE WORLD OF DNA SEQUENCE-INDEPENDENT GENE EXPRESSION

Epigenetics: How Genes and Environment Interact ................................................................. 121
Randy L. Jirtle

Epigenetics: Biologic Targets, Biomarkers and Role in Disease ...................................................... 122
James Herman

DNA Methylation Mediating The Effects Of Early Life Environment On Adult Phenotypes ................ 123
Moshe Szyf

Reproductive Epigenetics: Preparing the Epigenome for the Next Generation .................................. 124
Jacquetta Trasler

ASVCP VETERINARY LABORATORY PROFESSIONALS SESSION II

Interpretation of Graphical Reports from the Advia 2120, Sysmex XT-2000iV and Cell-Dyn 3500 .................. 130
Harold Tvedten, Inger Lilliehook

Comparison of Manual Total Cell Count with Fresh versus Formalin Fixed Blood from Fish .................. 139
Jill Ellen Arnold

LATIN AMERICAN PATHOLOGY GROUP PRESENTS

Freshwater Ornamental Fish Diseases In Colombia – South America ............................................ 141
Paola Barato, Carlos Iregui

Prevalence and Pathologic Features of Fibrous Osteodystrophy in Horses in Colombia: 23 Cases (1971-2012) ........................................................................................................... 142
Juan Carlos Ospina, Benjamin Doncel Diaz

CONCURRENT SESSION I: MITOCHONDRIA IN HEALTH AND DISEASE

Drug Induced Mitochondrial Toxicity ...................................................................................... 146
Yvonne Will

Pathogenesis of Mitochondrial Disorders .......................................................................................... 147
Eric A. Shoubridge
Mitochondrial DNA Mutations and Diseases ................................................................. 149
Lee-Jun C. Wong

Interaction of NLRs with Mitochondria ........................................................................ 151
Jenny P. Y. Ting

CONCURRENT SESSION 2: EMERGING AND IMPORTANT DISEASES OF CATTLE

Respiratory Diseases of Cattle .................................................................................. 153
Daniel B. Paulsen

Immunohistochemistry for the Study of the Pathogenesis and the Diagnosis of Infectious Diseases in Cattle and Small Ruminants ................................................................. 159
Fabio Del Piero

Approaches to the Diagnosis of Emerging and Major Endemic Viral Diseases of Cattle ................................................................................................. 163
Peter D. Kirkland

Bovine Viral Diarrhea Virus – Surveillance and Declining Prevalence ........................................... 170
Edward J. Dubovi

Enteric Clostridial Diseases of Cattle ........................................................................ 172
Francisco A. Uzal

EDUCATION FOCUSES SCIENTIFIC SESSION

Curriculum and Assessment Models: In Search of a Panacea? ........................................ 175
Susan M. Rhind

ASVCP VETERINARY LABORATORY PROFESSIONALS SESSION III

Canine DEA 1 Typing and Crossmatching: Various Testing Techniques ......................... 182
Urs Giger, Michelle A. Acierno, Klaudia Polak, Karthik Raj

Direct Antiglobulin Testing with Various Techniques and Implications for IMHA ............... 187
Urs Giger, Ladina L. Caviezel, Karthik Raj

EXPERIMENTAL DISEASE FOCUSED SCIENTIFIC SESSION II

Characterization Of The Attaching And Effacing Mechanism Of Escherichia Coli In The Pig Intestine Using In Vivo, Organ Culture, And Tissue Culture Infection Models ......................................................... 192
John M. Fairbrother

INDUSTRIAL AND TOXICOLOGIC PATHOLOGY FOCUSES SCIENTIFIC SESSION II

Male Reproductive Pathology: Hazard Characterization and Mitigation in Nonclinical Safety ........................................................................................................ 197
Justin D. Vidal

Genomic and Mechanistic Insights into Drug-Induced Vascular Injury in the Rat ................. 201
Deidre A. Dalmas

CONCURRENT SESSION 3: THE MICROBIOME: HOW THE BILLIONS OF ORGANISMS THAT CO-INHABIT ANIMALS AND HUMANS MAINTAIN HEALTH AND CAUSE DISEASE

The NIH Human Microbiome Project (HMP) ................................................................ 206
Lita M. Proctor

The GI Microbiome in Domestic Animals – Contributions to Health and Disease ................ 211
Jan S. Sachodolski

The Skin Microbiome in Health and Disease – Humans, Dogs and their Relationship .......... 215
Aline Rodrigues Hoffmann

The Airway Microbiome .......................................................................................... 220
Michael G. Surette
MINI-SYMPOSIUM: OSTEOCHONDROSIS

From Konig to the Present: What Have We Learned? .................................................................................................. 224
Cathy Carlson

Current Understanding of the Pathogenesis and Risk Factors .................................................................................. 227
Stina Ekman

CT and Micro-CT Investigations of Induced and Naturally Occurring Disease .......................................................... 229
Kristin Olstad

High Field MRI Investigations: Pathway to Diagnosing Subclinical Disease ............................................................... 234
Ferenc Toth

MINI-SYMPOSIUM: GULF OF MEXICO DEEPWATER HORIZON OIL SPILL: RESPONSE, RESEARCH AND PERSPECTIVES

The Effects of Crude Oil on Wild Fish Populations: Lessons Learned from the Exxon Valdez Oil Spill .................. 236
Gary D. Marty

Ecological Impacts during the Deepwater Horizon Oil Spill ......................................................................................... 241
Mace G. Barron

Marine Mammals, Oil, and the Gulf of Mexico: Perspectives on the 2010-2013 Northern Gulf of Mexico Cetacean Unusual Mortality Event .............................................................................................. 246
Kathleen M. Colegrove

Physiological and Genomic Footprint of the Deepwater Horizon Oil Spill in Gulf Killifish ........................................ 252
Fernando Galvez

Author Index