Penn Veterinary Medicine
Penn Vet Working Dog Center
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Penn Vet Working Dog Center
Presents:

"Selecting working dogs for the next century Scientific advances and man's best friend"

Mar 12-15, 2010
Philadelphia PA

	Friday March 12	
5:00 – 7:00 PM	Registration Opens	
6:00 – 8:00 PM	Reception	
7:00 – 7:30 PM	***Keynote Address*** Dave Kontny, Acting Deputy Director, Protective Security Coordination Division, Department of Homeland Security	**"Perspectives From A Career In Government"** Mr. Kontny will present his vision on selecting working dogs for the next century. He will share his experiences from nearly 30 years in the explosives detection canine community on the scientific advances he has seen help the working dog and ones he would like to see occur in the near future.
	Saturday March 13	
7:00AM– 5:00 PM	Registration	
7:00 – 8:00 AM	Breakfast	
8:00 – 8:45 AM	Heather Huson, University of Alaska in Fairbanks and National Human Genome Research Institute of the National Institutes of Health	**"Alaskan Sled Dogs: The Genetics of Breed Composition and Performance"** My research investigates the breed development of the Alaskan sled dog, a breed created solely for their athletic performance. It identifies purebred breed contribution in the enhancement of particular athletic attributes characterized in the Alaskan sled dog.
8:45 – 9:30 AM	Joan R. Coates, DVM, MS, DACVIM (Neurology), Associate Professor, University of Missouri	**"Canine Degenerative Myelopathy"** We recently discovered a mutation in the superoxide dismutase 1 (SOD1) gene of dogs with degenerative myelopathy which closely resembles amyotrophic lateral sclerosis (ALS - Lou Gehrig's disease). This presentation will provide an update of the clinical spectrum of DM and summarize work establish biomarkers for a better understanding of the pathophysiology and potential for translation of therapeutic strategies.
9:30 – 10:15 AM	Katariina Mäki, PhD, Executive manager of Finnish Society of Canine Genetic Health and Ethics	**"Genetic Diversity In Breeding Programs"** Selection based on estimated breeding values (BLUP) is able to pick the genetically superior dogs. As those dogs usually share same ancestry, selection may result in decreased genetic diversity. This presentation deals with genetic diversity in dog breeds and methods to optimize genetic improvement when at the same time restricting increase of inbreeding
10:15 – 10:45 AM	Break	

10:45 – 11:30 AM	Catherine Andre', PhD, Head of the "Canine Genetics" group CNRS Unit, School of Medicine, Rennes University, France	**"How Dog Genetics Can Help Canine and Human Medicine"** The discovery of the genetic basis of disease in different dog breeds, benefits dogs, through development of genetic testing and prediction, and benefits humans, in identifying novel genes governing the traits. This presentation will focus on the recent findings in canine genetics. Dr. Andre' will also highlight their research programs and aims for the canine community as well as expected outcomes in human medicine. She will end the presentation by a reflection on the applications and interests of these genetic research projects for working dogs, from their actual benefits to their limits.
11:30 AM – 12:15 PM	Eldin Leighton, PhD, Jane H. Booker Chair of Canine Genetics, The Seeing Eye	**"An Animal Breeder's Approach to Producing High-Quality Working Dogs"** A breeding program intended to produce a large number of high-quality working dogs must be goal oriented and highly organized. In this paper, Dr. Leighton will describe the approach taken by The Seeing Eye to produce about 600 puppies per year using a goal-oriented approach. Over nine generations of selection, hip quality has been improved while also improving the ability of the dogs to work as guides. Proof of these claims will be presented.
12:15 – 1:45 PM	Lunch	
1:45 – 2:30 PM	Cynthia O'Connor, DVM, Resident in Theriogenology and Medical Genetics, University of Pennsylvania	**"Canine Reproductive Advancements and Considerations for The Future"** This presentation will concentrate on some of the newest methods of assisted reproductive techniques in dogs while considering techniques on the horizon, as well as the challenge to select for dogs that excel both in service and in the whelping box.
2:30 – 3:15 PM	Glen Golden, PhD, Monell Chemical Senses Center	**"Down-home voodoo: Myth vs. Science in Canine Olfaction"** Standards for evaluating candidate dogs for scent discrimination tasks, much like the use of dogs to provide forensic evidence, has achieved an almost mythological status. In fact, only a limited amount of validation has been derived from empirical study. Development of rigorous and standardized selection methodology for working dogs is not possible without comprehensive review of the scientific literature.
3:15 – 3:45 PM	Break	
3:45 – 4:30 PM	Niraj Shanbag, University of Pennsylvania	**"Nature, Nurture, or Neither? Epigenetic Modifications of Genetic Traits"** A brief and general description of epigenetics. This will include a description of the history of the term, our current understanding of what it means, and some examples of epigenetic modifications known to be important in healthy and disease states.
4:30 – 5:30 PM	**Highlights From the Field**	Al Grossman "An overview of the RAAF Developmental Program" Karen Dashfield "Best Friends Search and Service Dog Program" Riita Liimatainen "Genetic parameters and predictive capacity of a behavioural puppy test and aptitude test in Finnish guide dogs"

		Cynthia Otto "The Penn Vet Working Dog Center"
6:00 – 8:00 PM	Dinner	
	Sunday March 14	
7:00AM –5:00 PM	Registration	
7:00 – 8:00 AM	Breakfast	
8:00 – 8:45 AM	Gloria Stoga, Founder and President of Puppies Behind Bars	**"Raising Successful Dogs In Prison"** The experience of Puppies Behind Bars will be presented. What has been learned in 12 years of raising working dogs in prison, in terms of what kinds of puppies do well in the prison environment as well as what the puppies need, in general, in order to make them well-rounded enough to become working dogs.
8:45 – 9:30 AM	James Serpell, PhD, Marie A. Moore Professor of Humane Ethics and Animal Welfare, University of Pennsylvania *Sponsored by Iams*	**"Early Prediction of Working Performance in Assistance Dogs: How Good Can We Get?"** This presentation will summarize the findings of ongoing research on the measurement of behavior in five different populations of guide/service dogs, and on the ability of these measures to predict success in training and in overall working performance.
9:30 – 10:15 AM	Debra Tosch, Executive Director, National Search Dog Foundation	**"From Rescued To Rescuer: What Does It Take To Be A Disaster Search Canine"** Disaster search canines must have high energy, intense play drive, strength, and vitality: yet finding the right candidates to enter SDF's training program is a real challenge. When screening a dog at a shelter or breed rescue, you have a very short time to determine if that dog is a strong candidate. SDF employs a proven behavioral assessment (completed in less than 15 minutes) to determine a dog's natural abilities and search dog potential. For dogs that make the cut, SDF's trainers then work hard to transform them from *rescued to rescuer.*
10:15 – 10:45 AM	Break	
10:45 – 11:30 AM	Thomas Nicholas, Department of Genome Sciences at the University of Washington	**"Identifying Structural Variation And Tracking The Footprints Of Artificial Selection In The Canine Genome"** In this talk, I will describe our recent efforts to develop high-resolution maps of structural variation and to identify targets of artificial selection in dogs. In addition, I will provide examples of how these data can be used as a powerful resource to inform the genetic basis of canine phenotypic variation.
11:30 – 12:15 PM	Edward Morrison, DVM Professor, Auburn University	**"Canine Olfaction System: Structure and Function"** Emphasis will be on the complexity of the nasal cavity, olfactory receptor neuron, protection of the nasal cavity. In addition the overall health aspect of the canine detector with regards to gait analysis (selection, training and rehab medicine) will be addressed.
12:15 – 1:45 PM	Lunch	

1:45 – 2:30 PM	Todd Towell, DVM, MS, DACVIM, Hill's Pet Nutrition	**"Nutrigenomics: The Future Of Functional Foods"** Nutrigenomics is the study of how individual nutrients or their metabolites interact with an animal's genome to regulate the structure or expression of genes. This relatively new discipline provides for a molecular understanding of how common nutritional components influence health by altering expression of an individual's genetic make-up. This session will cover the basic principles of nutrigenomics and how they are being applied to the pet food industry.
2:30 – 3:15 PM	Chuck Wysocki, PhD, Monell Chemical Senses Center	**"Nosing Around the Genome: Genotype/Phenotype Associations in Olfaction"** Many working dogs rely upon the sense of smell to accomplish their tasks. Increasingly, as the genome underlying olfaction becomes more revealing, the olfactory process per se is more fully understood. Recent advancements in the initial steps in mammalian olfaction, viz., potential receptor/ligand interactions, will be reviewed and discussed.
3:15 – 3:45 PM	Break	
3:45 – 4:30 PM	Susann Brown Lead Instructor, TEEX Urban Search and Rescue	**"Developing a Standardized Screening for Disaster Search Canines"** Our industry of disaster canine search has had a need for a standardized screening. At TX-TF1, one of the 28 FEMA Urban Search and Rescue teams in the US, we have developed a screening standard which meets our needs and has been adopted by the FEMA US&R system as a recommended screening for disaster canine candidates.
4:30 – 5:30 PM	**Highlights from the Field**	Mary Beth Kopechek "Variation of the Onset and Expression of Hazard Avoidance Behavior Across Three Breeds of Domestic Dog" Lisa Lit "Clever Hans barks: Handler beliefs affect scent detection dog behavior" Lisa Lit "Certification testing as an acute naturalistic stressor for disaster dog handlers"
6:00 – 8:00 PM	Dinner	
	Monday March 15	
7:00 – 8:00 AM	Breakfast	
8:00 – 8:45 AM	M. Christine Zink, DVM, PhD, DACVP, Professor, Johns Hopkins University	**"Working Dog Fitness: It's Not Just About Strength"** In this lecture, Dr. Zink will provide practical information on how to design an individualized fitness for your working dog that balances strength and endurance training in addition to stretching, body awareness and skill training.
8:45 – 9:30 AM	Gail Smith, VMD, PhD, Professor of Orthopaedic Surgery, University of Pennsylvania	**"Sound Hips, An Imperative For Working Dogs: Can We Get There From Here?"** Hip dysplasia is a highly prevalent osteoarthritic disease of the hip that causes pain and reduced working longevity in dogs used for service. This presentation will describe prerequisites of hip

		screening critical to making genetic progress toward better hips. Popular hip screening methods will be examined against these prerequisites for the potential to improve hips via appropriate selection of candidate breeders.
9:30 10:15 AM	Todd Towell, DVM, MS, DACVIM, Hill's Pet Nutrition	**"Altering Genomic Destiny: Nutritional Management of Osteoarthritis"** Successful treatment of osteoarthritis requires a comprehensive approach which includes preventative measures and a multimodal treatment program. This session will cover how nutrigenomic principles have been applied to the management of osteoarthritis and obesity in dogs.
10:15 – 10:45 AM	Break	
10:45 – 11:30 AM	Robert Gillette, DVM, MS, Director Veterinary Sports Medicine Program and Canine Detection Research Institute, Auburn University	**"Physiological Factors to Consider in the Selection of Detection Dogs"** The Detection Dog must be able to maintain its skill level each day it is working to fulfill its function. Our goal should be to optimize the ability of the dog to perform the selected activities while minimizing any performance detractors and inhibitors. Creating a preeminent detection dog program begins with selecting dogs that are best bred to handle these tasks.
11:30 – 11:45 PM	**Highlights from the Field**	Joe Wakshlag Serum C-reactive protein concentrations after racing in endurance and sprint sled dogs

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