



### Highlights of the 8<sup>th</sup> Biennial AKC Canine Health Foundation National Parent Club Canine Health Conference, August, 2011

By Karen Carver, Ph.D.

Every two years, the AKC's Canine Health Foundation (CHF) partners with the Nestle Purina Pet Care Company to host a National Parent Club Health Conference. The 8<sup>th</sup> biennial conference was held this year in the shadow of the great arch of St. Louis, which is also in close proximity to a new state-of-the-art Purina Event Center—conveniently located mid-country (<http://www.purina.com/Purina-farms/eventcenter.aspx>).

Over the past sixteen years, the CHF has funded over 550 research projects at 88 different universities and research institutions around the world. Nearly 34 million dollars have been invested in peer-reviewed scientific research to advance the health of dogs and their owners and to disseminate health information to prevent, treat, and cure canine disease. Even the National Institutes of Health (NIH), the largest and most competitive funding source for human health research in the U.S., has begun to recognize the importance of canine research to human health issues. The specialized nature of the genome of the purebred dog provides an important opportunity to improve our understanding of human health concerns. Because there are fewer genetic differences in purebred dogs, the search for the genes underlying disease is sometimes more easily conducted here than in humans.

As a first-time participant, I was immediately struck by how incredibly different this conference was from other conferences I've attended over

the years. First, attendees actually attended all the presentations—every presentation was nearly full—and questions finally had to be cut-off at the end of almost every researcher's talk in order to move to the next presenter. Second, the organizers transported the group to the Purina Event Center for the awards dinner and to tour the sparkling new facility. It's hard sometimes to find something more interesting to an avid RV fan (like myself) than 50 amp electric and full hookups—but even more interesting than all those RV pads—was watching over 200 people sit on the edge of their seats, completely spellbound by an unlikely cast of geeky researchers who were whispered to be the “rock stars” of canine health. Yes, the research was that fascinating—but shockingly, these folks could actually give a talk! Many personalized the research by bringing videos and photographs along with their charts, graphs, and tables. They talked about the dogs who contributed to the research and—of course— their own dogs. They also gave back to the research community. For example, not only did **Dr. Matthew Breen's** team develop a new test for lymphoma, the test will generate funds that will ultimately flow back into the CHF to fund future research. What follows are some brief highlights from the conference.

This year marks the 250<sup>th</sup> anniversary of veterinary medicine and comparative biology. The keynote speaker—**Dr. Donald Smith**, Dean of the College of Veterinary Medicine

at Cornell University—spoke on the history of veterinary medicine, ending with the point that not only is the search for disease-causing genes facilitated by the purebred canine genome, companion animals have been increasingly acknowledged as having direct human health benefits, a point that has been sadly ignored by our research funding agencies.

**Dr. Mark Neff's** research focused on mental illness in dogs—specifically genetic influences on canine anxiety and compulsivity disorders. He was also interested in the establishment of breed-specific instincts, such as pointing and sheepherding. He brought with him some fascinating video that showed dogs exhibiting such instincts from the earliest ages.

**Dr. Arleigh Reynolds**, an avid sled-dog enthusiast and researcher, discussed his research on probiotics and other immunobiologics (e.g., colostrum, egg-biologic proteins and algae) and their role in moderating the impact of stress on immune function. While his research evaluated stress associated with exercise and infection, he also specifically noted the stress that arises from travel, environmental change, and dietary change.

**Dr. Albert Jergens** discussed advances in the diagnosis of canine inflammatory bowel disease (IBD) and in our understanding of the role that bacterial microbiota play in the disorder. His research has shown that significant differences in duodenal microbiota exist between healthy dogs and dogs with IBD, and the article had the side benefit of describing some of the normal microflora observed in healthy dogs. For those with an interest in probiotics and the mucosal immune system, Dr. Jergens also expressed an interest in conducting a future controlled canine clinical trial

to investigate the effect of the human probiotic VSL#3 on canine IBD. So, stay tuned for that.

The last presentation of the first day came from **Dr. Joan Coates**, a researcher whose team has developed a genetic test for canine degenerative myelopathy—the canine equivalent of Lou Gehrig's disease. The first day came to a close with a heartfelt, emotional thank-you to Dr. Coates from one of the parent clubs affected by this debilitating disease. Many of the guests, including myself, left the first day a little teary-eyed. It was clear that this research was having a real impact.

A large portion of the second day was devoted to research on cancer. In honor of his achievements in canine cancer research, **Dr. Jaime Modiano** was awarded the Asa Mays Excellence in Canine Health Award. He discussed hemangiosarcoma (calling it the “tumor from hell”) and osteosarcoma, a cancer often resulting in amputation. His research has shown that by knowing the genetic subtype of the osteosarcoma, you can predict the outcome and better guide treatment decisions.

**Dr. Nicola Mason** has developed an antibody library that can be used to create targeted monoclonal antibody treatments. Such antibodies are designed to bind only to cancer cell-specific antigens, and to induce an immunological response against the target cancer cell. Dr. Mason has found a way to inhibit the growth of hemangiosarcoma tumor cells and is ready to try the antibody in a mouse tumor model. If successful, she will move to a clinical trial for dogs with hemangiosarcoma in the near future. **Dr. Rondo Middleton**, a Nestle Purina Senior Research Scientist, presented

information on vitamin D3 and its role in reducing the incidence and recurrence of certain types of cancer. His research has specifically focused on the impact of calcitriol, a form of D3, on decreasing cancer cell proliferation *in vitro*. This finding may lead to the development of special feeds for dogs with certain cancers. The last day of the conference provided break-out sessions on a number of topics of interest. Each attendee was given the option to choose 3. Some examples included:

- Canine Nutrition
- Research Advantages of the Purebred Dog
- Canine Health Information Center (CHIC) and DNA Repository
- Genetic Tests: How to Interpret Results and Incorporate Them into Your Breeding Program
- Development and Use of Canine Health Surveys
- Fundraising Techniques and Ideas
- Nutritional Needs of Sporting Dogs

Overall, this conference served the purpose of familiarizing participants with cutting-edge research having high relevance to both canine and human health. The researchers' passion for their subject areas was clear—as was their passion for the dogs themselves. It was a privilege to attend, and I urge all WCA members to visit the Canine Health Foundation website or to contact me or the WCA Health Committee for more information on particular areas of research that are of interest to you.

*Karen Carver, Ph.D. is a demographer working in the Washington DC area. She and her family are enjoying their first Weimaraner, Felix, with whom they hope to explore agility and obedience. Karen is a member of the WCA Health Committee and can be contacted at: [K.Carver@Systemsdev.com](mailto:K.Carver@Systemsdev.com)*