

FEATURED RESEARCHER »»»»»»»» *THE CURIOSITY OF*



Amy LeBlanc and husband, Casey, enjoy reading with their daughters, Erica and Isabelle. LeBlanc's research that combines animal and human health is unique in the world.

Some people have it. Some simply do not. It's a deep sense of curiosity. It's asking, "Why" and "What if" and not being satisfied until an answer is found.

Thankfully, Amy LeBlanc, D.V.M., associate professor and director of Translational Research, Molecular Imaging and Translational Research Program, possesses that deep curiosity and the education and skills to act upon it to the benefit of patients. But the unique part of LeBlanc's story is that for her, patients are both the two-legged and four-legged varieties.

In a unique joint position with the UT Graduate School of Medicine and the UT College of Veterinary Medicine, LeBlanc studies non-invasive ways to detect and monitor response to treatment for diseases in dogs, and in front of her is an ever-widening field of opportunities to translate her findings to the detection and care of diseases in humans.

ACADEMIC TO BEGIN WITH

LeBlanc's father is a chemical engineer, and her mother is a teacher.

"I think my parents would say I was academic to begin with, and I loved animals and science from a young age," says LeBlanc with a quick laugh that fills the room.

For most of her life, LeBlanc thought she would become a veterinarian in a private practice. Eventually, her sense of curiosity told her otherwise.

During her veterinary school years, LeBlanc became fascinated with oncology and decided she wanted to delve into that specialty by pursuing additional post-graduate training. After completing a medical oncology residency, LeBlanc began practicing veterinary oncology in Tampa, Florida. While she enjoyed the work, she had "a nagging feeling that this can't be all there is," she says. "I realized I wanted to be on the edge of what's known and what's not known."

A CURIOUS TURN OF EVENTS

In May 2004, she and husband, Casey, a veterinary clinical pathologist, moved to Knoxville to accept faculty positions at the UT College of Veterinary Medicine.

"Almost never are two positions like those

AMY LEBLANC

open at the same time,” LeBlanc says in amazement. “It just never happens. But we are lucky to be here in Knoxville.”

In line with a typical tenure-track faculty position at the Veterinary Medical Center, LeBlanc was able to begin research while fulfilling clinical service and teaching roles. She soon learned about incredible technology available just across the Tennessee River at the UT Graduate School of Medicine, and by 2009, with the encouragement of James Neutens, Ph.D., dean of the Graduate School of Medicine, and James Thompson, D.V.M., Ph.D., dean of the College of Veterinary Medicine, LeBlanc had a joint appointment between the two institutions, doing what she loves: Answering “what if.”

“It was a natural progression to where I wanted to focus my research efforts,” LeBlanc says. “We have a unique set of resources, technology and people that you cannot find anywhere else in the world.”

UNDERSTANDING ABNORMAL

LeBlanc is putting this unique environment to good use. Her goal is to help researchers in various fields realize the potential of PET/CT (Positron Emission Tomography/Computed Tomography) imaging. She sees a big picture not many medical or veterinary professionals see or know exists: Knowledge gained from using PET/CT imaging for human health can help animals; conversely, using PET/CT and new PET tracers to diagnose and monitor treatment in animals can further human health.

“Animals with spontaneous diseases, like heart failure, diabetes and cancer, can help us understand similar diseases in humans. We have incredible technology and expertise here, so we should be asking, ‘How else can we use this technology to benefit both?’”

LeBlanc has high demands for her research: In addition to complying with all regulations governing research, it must be both



One of Amy LeBlanc's current research programs is inflammatory brain disease in dogs and how to draw correlation to human health.

ethically sound and mutually beneficial for veterinary medicine and human medicine. Protocols are followed and regularly scrutinized.

At present, LeBlanc is using the non-invasive PET/CT imaging facility to determine how normal dog brains use glucose for fuel, so she and others around the world can compare with brain activity of dogs suspected of having inflammatory brain disease.

“We need to know what normal looks like before we can understand abnormal,” she says.

This study is one of several headed by LeBlanc that is unique in the world. Nowhere else and no one else in the world has ever done such studies. She recounts a time recently when she attended an international conference and watched as her research findings were used to support the presenter’s findings.

“It was an exciting moment, knowing the work we are doing here is impacting the way physicians think about diagnosing and treating their patients,” says LeBlanc. “In the end, I’d like to see drugs and imaging tools come into the marketplace for humans and animals, understanding the knowledge we gain is transferrable to both. Someone’s mother or brother will get that drug, which would not be available if we hadn’t been here, if we hadn’t wondered about the possibilities.” ▲