

Michelle M. LeBlanc, DVM, Dipl. ACT
A life dedicated to the study of reproduction
1954 - 2013

Michelle Mary LeBlanc, DVM, Dipl. ACT, is the 2013 recipient of the David E. Bartlett Award for Lifetime Achievement in Theriogenology. Dr. LeBlanc was a researcher, teacher, mentor, and practitioner for 36 years. Her contributions to the advancement of equine reproduction are unique and varied. A 1977 graduate of Michigan State University College of Veterinary Medicine, she spent her academic career at the University of Florida College of Veterinary Medicine and joined Rood and Riddle Equine Hospital in Lexington, Kentucky, in 2002. Practical application of her basic research guided her focus. She studied mares, stallions, foals, goats, llamas, dogs, and even elephants. She led in the development of novel research and treatment techniques in mares and foals and the invention of useful equipment. Her contributions as a teacher, administrator, and mentor defy quantification. Nominated by Dr. Audrey Kelleman, Dr. LeBlanc is a worthy recipient of this prestigious award.

Michelle grew up in Michigan with three sisters and one brother and supportive parents. Her love of animals was evident from an early age. She rode horses as a child and developed a life-long love of riding and training horses. Her last horse, BeBe, was an inspiration to her in her last months. She became a veterinarian at 24 years of age after two years of undergraduate work and three years of veterinary school. Her first job occurred by happenstance. On her way to interview for a job in Maryland, she stopped to visit Dr. Leroy Manlove who offered her a job on the spot in his “all creatures great and small” practice. After three years in practice, Dr. Maarten Drost, who remained a good friend for her entire life, recruited her to the University of Florida (UF) as a theriogenology resident. Dr. Drost sent her to Utrecht to study obstetrics, an opportunity that she characterized as an exciting time in her career development. She found like-minded individuals in the UF theriogenology group, including Dr. Victor Shille, a pioneer investigator of canine and feline reproduction. Dr. A.C. (Woody) Asbury, her mentor, immediately recognized her talents and strongly influenced her approach to research, teaching, and clinical practice as her career path began to narrow. She and Woody continued their close relationship until his passing in 2011. In this stimulating academic environment, she became a Diplomate in the American College of Theriogenologists and Assistant Professor in 1982. Ultimately, she became a Professor and Director of Equine Research in 1995.

Her early research interests took her to Washington State University to study with Dr. Lance Perryman and to Cambridge University to study with Dr. Marion Silver in 1988 and 1989. Dr. Silver’s work included fetal catheterization to study the effect of medications and hormones on the fetus, a technique Dr. LeBlanc employed in her model for studying fetal maturation, induction of parturition, and fetal surgical stress in 1990. In 1995, Dr. LeBlanc wrote a monograph in *Biology of Reproduction* entitled, “Equine Fetal Maturation: The First Twenty Years. In Honor of Marion Silver”. She also formed a collaborative relationship with Dr. Twink Allen during her study in Newmarket that continued throughout her career. Dr. LeBlanc returned to the University of Florida continuing the study of uterine clearance in mares leading to major improvements in treatment options for the problem mare that are now implemented routinely. Dr. LeBlanc frequently described the early 80’s and 90’s as “the golden age of theriogenology”.

While on the faculty at UF, she received numerous awards for teaching and research, including the Carl J. Norden Distinguished Teacher in 1993. Many students, interns, and residents relate the inspiration she provided in their personal and professional lives. The list of graduate students and residents she supervised at UF reads like a list of Who’s Who in Theriogenology and includes Dr. Barry Ball, Dr. Maria Cadario, Dr. Audrey Kelleman, Dr. Sara Lyle, Dr. Peter Morresey, and Dr. Dale Paccamonti, to name just a few. Many of her students have remarked on her willingness to listen as part of her positive impact on their careers. Her intense dedication to direct communication and hard work was a significant aspect of her character.

Dr. Tom Riddle enlisted her assistance in finding a theriogenologist to develop a referral service at Rood and Riddle Equine Hospital (RREH) in Lexington. In 2002, she decided that the position was right for her and she used her experience and skills with research and teaching to construct a unique amalgam of veterinary practice and research while holding an appointment as Adjunct Professor at the University of Florida. She never balked at working on the most challenging cases and enjoyed seeing the success of her

efforts at the racetrack and in the show ring. She especially enjoyed the success of Royal Delta as she won the Breeders' Cup Ladies Classic in 2011 and 2012. Dr. LeBlanc's contributions to her profession and her friends and family ended in April 2013 when she died from the complications of metastatic small bowel carcinoma.

The equine uterus was an important subject of Dr. LeBlanc's research for her entire career. She studied basic changes in endometrial histomorphology and assessed uterine changes in response to various medications and conditions. She relied on this acquired knowledge to understand the development, diagnosis, and treatment of endometritis and placentitis. Her initial work on uterine clearance mechanisms published in 1984 in *American Journal of Veterinary Research* advanced basic knowledge of the function of the myometrium. With this background, she developed a novel nuclear scintigraphy model with Dr. Lisa Neuwirth to investigate the mechanisms of uterine clearance. This model was then used to investigate the effect of different medications on uterine clearance, including her groundbreaking work on the benefit of oxytocin in uterine clearance published in *Equine Veterinary Journal* in 1994. The use of oxytocin and other ecbolics has become standard practice in the equine industry. Her focus on uterine physiology led to advances in the treatment of endometritis as detailed in *Clinical Theriogenology* in 2009.

Dr. LeBlanc arrived at RREH in 2002 after the devastating outbreak of Mare Reproductive Loss Syndrome (MRLS) in 2001. She was uniquely qualified to participate in research into the cause of MRLS based on her research in uterine pathophysiology published in the *Journal of American Veterinary Medical Association* in 1984 and her knowledge of the uterine response to medications and pathogens. In this private practice setting, she continued to study placentitis and published an in-depth paper in *Proceedings of the American Association of Equine Practitioners* in 2004 with Dr. Margo Macpherson and Dr. Pete Sheerin. She worked with a team of researchers to determine the root cause of MRLS as published in *Journal of the American Veterinary Medical Association* in 2004 and continued to study the effect of placentitis on the fetus published in *Theriogenology* in 2007 with Dr. Audrey Kelleman and others.

In other research during private practice, she, Dr. J. Magsig, and Dr. A.J. Stromberg refined the technique of low volume uterine lavage for evaluation of sub-clinical endometrial conditions as detailed in *Theriogenology* in 2007. She used endoscopic techniques to assess the endometrium and uterine function. Results of her work with the scanning electron microscope to investigate cellular function of the endometrium were published in abstract form in *Proceedings of the 10th International Symposium on Equine Reproduction (ISER)*. One of the subjects of her work with Dr. Robert Causey was the interaction of the uterus with biofilms and the effect of N-acetylcysteine and other mucolytics on uterine function with the initial publication accepted just prior to her death.

Dr. LeBlanc's interest in the equine uterus naturally evolved into studies of fetal stress and treatments to improve fetal survival. From this work, she established protocols for clinical assessment, identification, and treatment of the compromised equine fetus published in the *Equine Veterinary Journal* in 1997. She developed and patented a colostrometer in 1985 still in use today as an aid in measuring colostrum immunoglobulin concentration to predict its value to the equine neonate. Her research in the early 1980's describing the relationship between colostral immunoglobulin concentration and absorption by foals was published in *Journal of Reproduction and Fertility* in 1987. Later, she described factors influencing passive transfer of immunoglobulin published in *Journal of the American Veterinary Medical Association* in 1992. Her interest in fetal and neonatal viability was a driving force for her placentitis research. In 2010, she published an update on ascending placentitis in the mare in *Reproduction of Domestic Animals Supplement*. She collaborated in placentitis research with Dr. Dale Paccamonti, Dr. Steeve Giguere, and others on the relationship between infection, inflammation, and premature parturition in mares with experimentally induced placentitis. She had begun work with Dr. David Horohov studying several inflammatory cytokines as possible markers of the early development of placentitis. Her work with fetal stress resulted in improved survival of foals delivered from sick mares and mares with placentitis.

Dr. LeBlanc has received awards recognizing her meritorious work from students, practitioners, industry, academics, and research peers. She received the Lifetime Achievement Award from the Florida Association of Equine Practitioners in 2011. The Florida Thoroughbred Farm Managers industry group honored her with its Carry Back Award in 2011. Her alma mater Michigan State University granted her the Distinguished Veterinary Alumnus Award in 2007. She was named the Theriogenologist of the Year in 2000

by the American College of Theriogenologists. She received the World Equine Veterinary Association (WEVA) Lifetime Achievement Award in 2011, which exemplifies her impact on international equine veterinary knowledge. The WEVA Lifetime Achievement Award honors clinical research, basic and applied research, and teaching. She is only the second recipient of this prestigious award, the first being Dr. Peter Rossdale in the United Kingdom.

Dr. LeBlanc generously shared her knowledge and ideas in many ways and welcomed constructive debate in all forums. She traveled internationally speaking to many equine veterinarians and industry professionals about new methods for improving equine health. The list of international groups she addressed is long and prestigious. She spoke to the Society for Italian Equine Veterinarians, which awarded her honorary membership, and to several Japan Racing Association Symposiums. Her textbook contributions have provided innovative information to many students and veterinarians. She co-authored or contributed chapters to at least twelve textbooks. Her individual mentoring of students, interns, and residents provided a major contribution to the dissemination of equine health. She served on the boards and committees of many organizations to ensure the highest quality equine research. The Havemeyer Foundation was a major supporter of Dr. LeBlanc's research and she organized several of the in-depth Havemeyer Workshops including a unique comparison of uterine infection in women and mares in 2004. She served as a member of the Gluck Equine Research Veterinary Advisory Board. She served on boards and committees for the Society for Theriogenology (SFT), the American Association of Equine Practitioners (AAEP), the International Symposium for Equine Reproduction (ISER), and the American College of Theriogenologists (ACT). Many other professional organizations benefitted from her insight and effort. Dr. LeBlanc served as president of the ACT in 1997-98 and on the Board of Directors of AAEP from 2004-07. She participated in AAEP seminars, organizing the first Focus In-depth Seminar, SFT programs as chair and presenter, and equine industry meetings to educate clients and veterinarians about advancements in equine reproduction. She assisted in developing two recurring symposiums, first, in Kentucky as the Bluegrass Symposium, then, in California as the West Coast Equine Reproduction Symposium, to help raise funds for graduate student participation in ISER. Her contributions to these organizations provide a record of her enormous positive influence on her profession both nationally and internationally.

Her impact on the field of equine reproduction through her research accomplishments is permanent. Those she mentored in myriad ways during her 36 years as a theriogenologist are a significant part of her legacy. Her life included her beloved husband, Kevin Anderson, who passed away in 2011 from brain cancer, her dear dogs, and her joy for all outdoor activities especially cycling and running. She loved the beach and spent many happy hours at Amelia Island or St. Augustine Beach. She enjoyed a cup of good coffee or hot tea as she read for pleasure an astonishing number of books, both fiction and non-fiction. Planning the gardens at her Florida and Kentucky homes was a pleasant challenge for her. Her love of Florida basketball is legendary as evidenced by her request, perhaps tongue-in-cheek, to have Florida-Kentucky basketball tickets as part of her compensation package at RREH. Many of her students remarked on her femininity as she worked in a male dominated profession, wearing her elegant earrings and well-tailored clothes, presenting a smart, in so many ways, role model for young women veterinarians. We will always remember her wonderful smile and her willingness to tackle any problem head on.

Thank you, Michelle.

This essay was written by Carol McLeod based on her friendship with Michelle, conversations with Michelle over many years, reference to Michelle's curriculum vitae, and remembrances by Michelle's friends. Any errors are the sole responsibility of Carol McLeod, for which apology is made and correction requested.