

Zweig

From the Harry M. Zweig
Memorial Fund for Equine
Research at the Cornell University
College of Veterinary Medicine



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Farewell, Fortier: Surgeon-scientist shifts from CVM to AVMA

By Lauren Cahoon Roberts

Lisa Fortier, Ph.D. '98, the James Law Professor of Surgery, has always had a passion for veterinary medicine. This love of the profession has carried her through her training — from her D.V.M. program at Colorado State University, to her Ph.D. and residency training at Cornell, and her current role as clinician-scientist at the Cornell University College of Veterinary Medicine. This year, Fortier's dedication leads her to a new chapter in her career: Taking on the role of editor-

in-chief and communication division director of the American Veterinary Medical Association (AVMA).

"I think being a veterinarian is the coolest profession of all," says Fortier. "I've always loved being a veterinarian. And now, I have the ability, with the help of my staff, to impact 97,000 veterinarians with the work I am now doing."

This level of impact speaks strongly to Fortier, who has devoted her career to developing cutting-edge treatments that can dramatically improve both horses' and humans' lives. As a board-certified large animal surgeon, she dealt with numerous horses suffering from osteoarthritis — a condition that often arises after injury in equine athletes. These clinical cases drew her to study cartilage biology, and how to leverage the body's natural immune system to treat and even prevent arthritis from developing. Numerous studies funded by the Harry M. Zweig



Lisa Fortier, Ph.D. '98, the James Law Professor of Surgery, at the Cornell Equine Park. Photo: Platinum Performance, Inc./Cornell

Renowned equine hepatitis virus researcher receives AAEP research award

Memorial Fund for Equine Research and led by Fortier have expanded the suite of clinical therapies available to equine patients — from stem cells, to bone marrow concentrate, to mitochondria-stabilizing peptides, to platelet-rich plasma. “The Zweig Fund is really what allowed me to establish myself as a researcher,” says Fortier. “That funding was critical, and allowed me to produce the scientific manuscripts to get the word out about the work of my team at Cornell.”

Fortier is proud of the fact that her body of research has not only made a difference for animal patients, but has also paved the way for human therapies as well. “We really have been able to fly the One Health flag with this work and showcase the role of veterinarians in advancing human health.”

“The Zweig Fund is really what allowed me to establish myself as a researcher. That funding was critical, and allowed me to produce the scientific manuscripts to get the word out about the work of my team at Cornell. — Fortier

In addition to pushing the boundaries of science and medicine, Fortier has also served in many other ways at the college, including being director of the Cornell Equine Park, associate chair for graduate education and research, serving two terms on the Institutional Animal Care and Use Committee, and working as a surgeon at the Cornell University Hospital for Animals and the Cornell Ruffian Equine Specialists clinic in Elmont, New York.

As she steps into her new role at the AVMA, Fortier will be doing a phased retirement at Cornell, still working on some key research projects and seeing some select clients at the hospital, concluding in the spring of 2023. At the same time, she is ramping up her work as editor-in-chief and is excited about the new horizons ahead. Her team just launched the AVMA’s new journals website. “We’ve revamped the journals to

be more author-friendly and increase their clinical and career relevance for our members,” says Fortier. “We’re really prioritizing the value of the manuscript for our readers, and getting them the information they need to enhance their profession in a timely manner.”

Fortier is not new to this type of work, having launched two other journals during her career — Cartilage and The Journal of Cartilage and Joint Preservation. “I already knew I liked being an editor, I liked helping authors getting their work published and get their message out to the world,” says Fortier. “I like to help them have their voice heard.”

As she begins to step away from her duties at Cornell, Fortier reflects on the impact the college has had on her life. “The collaborative spirit at Cornell is truly unique,” she says. “That spirit has always been here, and it has truly elevated the work I’ve done. I also can’t stress enough how important all the administrative support has been — from the research office, to all of our administrative assistants, to all the support staff — everyone does so much to allow us to focus on teaching, research and clinics. The support is amazing at Cornell.”

After three decades of discovery and service at Cornell, Fortier’s new role with the AVMA is sure to be an exciting new chapter in her career. ●



Fortier prepares for surgery. Photo: Platinum Performance, Inc. /Cornell

By the American Association of Equine Practitioners

The American Association of Equine Practitioners (AAEP) presented its 2021 AAEP Research Award to Joy Tomlinson ’06, D.V.M. ’10, whose groundbreaking research into four recently discovered equine hepatitis viruses has revolutionized the diagnosis, treatment and prevention of equine liver disease.

The AAEP Research Award recognizes an individual who has completed research that has or will make a significant impact on the diagnosis, treatment or prevention of equine disease. Tomlinson was recognized Dec. 7 during the AAEP’s 2021 Annual Convention and Trade Show.

Tomlinson is a Ph.D. candidate, research associate and lecturer at the Cornell University College of Veterinary Medicine, from which she received her veterinary degree in 2010. Following graduation, she completed a large animal internal medicine residency at the University of Pennsylvania’s New Bolton Center before returning to Cornell in 2014 as a clinician in the university’s Equine

Hospital and research associate at the Baker Institute for Animal Health.

Tomlinson’s foundational research demonstrates equine parvovirus (EqPV-H) as the cause of Theiler’s disease, a frequently fatal acute hepatitis disease of horses that has baffled the veterinary community for over a century. Her research shows that transmission is possible not only by serum or other biological products contaminated by the virus from infected horses, but also by natural means, such as direct contact and biting flies.

In addition, Tomlinson’s research into the immune response of horses following equine hepatitis virus (EqHV) infection has significantly advanced understanding of the equine immune system. Meanwhile, her landmark research into two recently discovered equine pegiviruses confirm that these viruses are not hepatotropic and do not cause liver disease, but instead cause non-clinical persistent infection in the bone marrow of horses.

“Dr. Tomlinson’s research focus is on the investigation of equine viral hepatitis. She has become



Joy Tomlinson ’06, D.V.M. ’10. Photo: Chris Kitchen/Cornell

the recognized world leader in this research area while also continuing her clinical work in internal medicine,” said nominator Dr. Thomas Divers, professor of large animal medicine. “Dr. Tomlinson’s 2.5 years of research on these four viruses has been extraordinary and answered many questions regarding the biology and clinical significance of these viral infections in horses.” ●

Notable publications

Antczak DF, Allen WRT. “Placentation in equids.” *Advances in Anatomy, Embryology and Cell Biology*. 2021.

Cresswell EN, Ruspi BD, Wollman CW, Peal BT, Deng S, Toler AB, McDonough SP, Palmer SE, Reesink HL. “Determination of correlation of proximal sesamoid bone osteoarthritis with high-speed furlong exercise and catastrophic sesamoid bone fracture in Thoroughbred racehorses.” *American Journal of Veterinary Research*. June 2021.

Harman RM, Theoret CL, Van de Walle GR. “The horse as a model for the study of cutaneous wound healing.” *Advanced Wound Care*. July 2021.

Palmer S, Gomez AMM, Mohammed HO. “Attrition of Thoroughbred and Standardbred racehorses at New York racetracks due to exercise and non-exercise related fatalities during the 2016-2019 racing seasons.” *Journal of Equine Veterinary Science*. Sept. 2021.

Raza F, Babasyan S, Larson EM, Freer HS, Schnabel CL, Wagner B. “Peripheral blood basophils are the main source for early interleukin-4 secretion upon in vitro stimulation with Culicoides allergen in allergic horses.” *PLoS One*. May 2021.

Zoetis honors Reesink with research excellence award



Dr. Robert Weiss (left), and Reesink accepting the Zoetis Award for Veterinary Excellence from Lorin D. Warnick, D.V.M., Ph.D. '94, the Austin O. Hooey Dean of Veterinary Medicine. Photo: Darcy Rose/Cornell

By Melanie Greaver Cordova

Heidi Reesink, Ph.D. '16, the Harry M. Zweig Assistant Professor in Equine Health, is the 2021 winner of the Zoetis Award for Veterinary Research Excellence. This award recognizes outstanding research effort, productivity and the advancement of knowledge in areas relevant to veterinary medicine.

Each year, the recipient gives a presentation at the Zoetis Award Recognition Event, followed by a reception. Reesink presented “Horses, Hounds and Humans: A One-Health Approach to Osteoarthritis” Sept. 14 to virtual and in-person attendees

at the Cornell University College of Veterinary Medicine. Her research covers pathophysiology, epidemiology and the treatment of orthopedic disease.

The award is intended for an outstanding faculty member at an early stage of his or her career. Nominations are restricted to individuals who, at the submission deadline, are not more than six years beyond their first faculty appointment at Cornell. With generous support from Zoetis, the college has highlighted and celebrated the exceptional research achievements of accomplished junior faculty for 37 years. ●

Cornell Ruffian Equine Specialists welcomes Morris to faculty

By Melanie Greaver Cordova

Cornell Ruffian Equine Specialists (CRES) welcomed Tate Morris, D.V.M. '16, to its faculty July 26. “It is a pleasure to have a veterinarian as skilled as Dr. Morris join our team of clinicians,” said Dr. John Pigott, medical director and associate clinical professor. “I look forward to seeing his enthusiasm and talents as a surgeon advance the health of our equine patients.”

Morris grew up on the coast of Connecticut and spent time in the dairy barns of Vermont’s Champlain Valley. Upon graduation from the University of Vermont, he worked in Wyoming on cattle and horse ranches, where he developed his passion for veterinary medicine. This prompted a return to the Northeast in 2012, when he enrolled at the Cornell College of Veterinary Medicine. At Cornell, Morris worked in the Equine and Nemo Farm Animal Hospital as a student technician, assisted clinical research in the Comparative Orthopedics Laboratory and treadmilled poor performance candidates in the Equine Performance Clinic.

After receiving his doctorate of veterinary medicine, he spent the next year as an intern with Randwick Equine Centre in Sydney, Australia, and with Rood and Riddle in Saratoga, working with a mixed population of Thoroughbred racehorses and sport horses. Following an internship with CRES in 2017, Morris joined the New Bolton Center, the large animal hospital and campus for the Veterinary School of the University of Pennsylvania. He now returns to CRES as an equine surgeon and emergency clinician, where he will continue to advance the elective, emergency and sports medicine case load. He brings with him an interest in airway and orthopedic surgery, novel therapy development and poor performance evaluation. ●



Tate Morris, D.V.M. '16. Photo provided.

Touching a nerve in equine medicine

By Melanie Greaver Cordova

A passion for horses is foundational for the veterinarians at the Cornell Equine Hospital. It has led to groundbreaking procedures, state-of-the-art techniques and an impressive wealth of knowledge that has saved and improved the quality of life of many animals. Up-and-coming experts are already making waves in the fields that Cornell legends pioneered, fostering an equine surgery frontier that is exciting both for the outlook of horses and the veterinarians who care for them.

Jonathan Cheetham, Ph.D. '08, associate professor in the large animal surgery section, is making important forays into equine airway research, with a clinical interest in upper airway surgery and equine sports medicine. After receiving his bachelor of veterinary medicine and master’s degrees from Cambridge University, Cheetham worked in first-opinion and referral equine practices in the United Kingdom for several years. He then came to Cornell for a residency in large animal surgery and completed his Ph.D. in 2008 under the tutelage of equine airway pioneer Dr. Norm Ducharme, the James Law Professor of Surgery Emeritus. He joined the Department of Clinical Sciences as the Harry M. Zweig Research Scientist in 2012, followed by his appointment to associate professor in 2016. Cheetham has received several Zweig awards since 2011 to further his work.

“His research is really top-shelf,” says Ducharme. “The

work he’s doing will have made an amazing difference even five, 10 years from now. It’s promising and exciting.”

Cheetham’s concern is with peripheral nerve repair — specifically, understanding the relationship between the immune response to nerve injury and recovery, and modulating that immune response to improve functional outcome after an injury, as well as restoring laryngeal function using regenerative medicine techniques combined with reinnervation.



Cheetham at work in the Cornell Equine Hospital in 2018.

Photo: Jonathan King/Cornell

many projects — understanding the immune system’s initial response to injury and leveraging it to improve patients’ outcomes — is proving successful in the equine larynx, as well as the canine laryngeal process and human peripheral nerve injury, via collaborations with colleagues at Cornell’s Companion Animal Hospital, the Cornell University Hospital for Animals and Weill Cornell Medicine respectively.

This work on nerve injuries in the lab is approaching the exciting point of application in clinics. “We’re working on something that helps promote nerve growth after a nerve graft,” Cheetham says. “There are a few promising candidates that have seen success in mice, rats and other

“I think of my process as a sort of wheel,” says Cheetham. “The wheel can spin around, discovering at one point, modifying and translating at another and finally having the application from those findings spit out in unique ways.”

The connective thread that runs throughout Cheetham’s

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species, so we’re looking forward to bringing that to the clinic.”

This project is building from Ducharme’s work. “This would be an addition to the amazing work he has done to encourage those nerves we graft onto the muscle to regrow more quickly,” says Cheetham.

From the operating room to work in the lab, Cheetham emphasizes that success relies on trusting team expertise. “Fellow surgeons will share their experience, the residents are great and the overall environment is excellent,” he notes. “The technicians in the hospital have a sort of sixth sense about cases and have amazing relationships with clients. They’re a core part of the team. And from a research perspective — we have a rich environment that allows and encourages innovation. A strength is knowing that our work is supported by the college.”

Cheetham contributes to multiple services at the Cornell Equine Hospital, including the equine sports medicine and rehabilitation service; the soft tissue surgery service; the emergency and critical care service; the orthopedic service; and the regenerative therapies service. The Cornell Equine Hospital is a world leader in its field largely due to the expertise of the veterinarians and team members in each of these services and more.

Cheetham agrees it’s a team attitude that creates success. “We all feel free to exchange ideas and support each other.”

Whether it’s bringing his drive, determination or collaborative attitude to the clinical space or the lab, Cheetham is upholding the Cornell Equine Hospital’s commitment to the best possible care for its equine patients now and in the future. ●



Cheetham talks to a group touring the Cornell Equine Hospital in early 2020.
Photo: Darcy Rose/Cornell

Snapshots from the 2021 Zweig Memorial Trot

Photos provided



Zweig Memorial Trot

SPY BOOTH
1:52.3 First Win

Aug. 28, 2021 9th Race Purse: \$325,000
Driver: Dexter Dunn Trainer: Nancy Takter
Owner: John D. Fielding, David H. Anderson, Robert J. LeBlanc & Marvin Kat



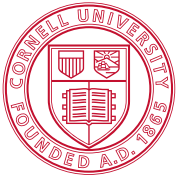
Zweig Memorial Trot

DARLENE HANOVER
1:53.4

Aug. 28, 2021 8th Race Purse: \$140,000
Driver: Todd McCarthy Trainer: Brett Bittle
Owner: Yankeeland Partners LLP



The Harry M. Zweig Memorial Fund for Equine Research honors the late Dr. Harry M. Zweig, a distinguished veterinarian, and his numerous contributions to the state’s equine industry. In 1979, by amendment to the pari-mutuel revenue laws, the New York State Legislature created the fund to promote equine research at the College of Veterinary Medicine at Cornell University. The Harry M. Zweig Committee is established for the purpose of administering the fund and is composed of individuals in specified state agencies and equine industry positions and others who represent equine breeders, owners, trainers and veterinarians.



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Our site provides information on the projects and publications resulting from the Zweig Memorial Fund, and demonstrates the objectives of the Fund in promoting equine health in the racing industry. The Zweig News Capsule is published twice a year, and can be downloaded at bit.ly/ZweigNews. Please encourage other equine enthusiasts to visit the site.

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