Leadership Program for Veterinary Students

Preparing tomorrow’s scientists and public health professionals, today
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Photography by Alexis Wenski-Roberts
Additional photos by Colorado State University, John Enright/Baker Institute, Lindsay France/UP, Karsten Hueffer, Midland Animal Clinic, or provided

Produced by the Cornell University College of Veterinary Medicine

Cornell University is an equal opportunity, affirmative-action education and employer.
The mission of the annual Cornell Leadership Program for Veterinary Students is to provide students with learning experiences that clarify and reinforce their commitment to careers in science. Since its inception, 32 years ago, over 700 alumni have participated. These individuals came from veterinary colleges in all parts of the world and many, as we had hoped, have become scientific leaders within the veterinary profession. We are delighted to report that 16 outstanding scholars participated in this year’s program. It is too early to know where they will take their careers; however, based on the achievements of past participants we can expect great things from them.

Research is the major focus of the Leadership Program. Program scholars undertake individual research projects under the guidance of Cornell faculty members who are all highly successful scientists and experienced mentors. The university’s world-class research facilities and intellectual environment support the scholars’ research investigations. In addition to laboratory-based research, program scholars participate in modules and workshops that are designed to highlight employment and leadership opportunities for veterinary graduates in academia, government, and industry.

There remains a chronic shortage of veterinary scientists. For the future success of the veterinary profession, it is critically important that young veterinarians engage in biomedical research. Veterinary students are often much less informed about careers in biomedical research, public health, or the pharmaceutical industry. The goal of our program is to show the most talented veterinary students the attractions of biomedical research as a career and to provide them with practical career guidance on how to succeed.

JOHN S. L. PARKER, BVMS, PHD
PROGRAM DIRECTOR
Acknowledgements

The Leadership Program for Veterinary Students is made possible through awards from federal agencies, foundations, Universities, and other private sector sponsors.

For their generous support this year, the program organizers thank:

- Albert C. Bostwick Foundation
- Dr. Geoff Letchworth
- Cornell Feline Health Center
- Cornell Canine Health Center
- National Institute for Health
- Royal Veterinary College
- University of Cambridge
- University of Edinburgh

The program organizers also thank the facilitators, counselors, and mentors who took part in the 2022 program. Thank you to Elaine Lu, the Program Student Coordinator, Jackie Wright, Sue Williams, Terri Denman Alexis Wenski-Roberts, and David Frank for their administrative and technical assistance. Finally, the organizers congratulate the participating scholars. Their academic achievements, coupled with their dedication to discovery and service, mark these individuals as future leaders of the veterinary profession.

From time-to-time, the program organizers have described elements of the program, strategies for their mentation, and outcomes of this initiative.

Recent Publications Include


THE 2020 PROGRAM was held virtually and scholars participated virtually by undertaking a research project that involved online data collection and processing. In addition, Scholars participated in a weekly journal club that was organized by Cornell graduate students.

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The 2020 & 2021 Leadership Programs were significantly impacted by the COVID-19 pandemic, and no annual report is available for these two years.

**THE 2021 PROGRAM** was in-person, but was limited to students from the United States due to travel restrictions that prevented students from other countries from coming to Cornell for the summer.

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[WWW.VET.CORNELL.EDU/SUMMER-LEADERSHIP-PROGRAM](WWW.VET.CORNELL.EDU/SUMMER-LEADERSHIP-PROGRAM)
2022 CURRICULUM

Program Activities

The Leadership Program combines faculty-guided research with student-directed learning through participation in modules, workshops, and group discussions. The activities encourage responsible leadership, critical thinking, and the development of teamwork skills.

The program also highlights graduate training opportunities calculated to promote the professional development of program alumni as independent scientists and public health professionals.

CAREER EXPLORATION

Career planning is featured prominently in the Leadership Program. Three meetings were convened to consider opportunities for veterinary graduates to broadly influence the veterinary profession through careers in the academy, government or industry.

Drs. Casey Cazer, David Fraser, and John Parker reviewed career options available to veterinary graduates who aspire to careers in science. They emphasized the importance of selecting a superior environment for graduate research training and a mentor who has a successful training record.

A companion meeting addressed issues related to graduate research training. Drs. Mason Jager, John Parker and Robert Weiss identified aspects of training that one should weigh in selecting an institution for graduate study; the subject of one’s thesis research and an individual to guide one’s graduate studies. This was followed up on later in the program during the Career planning Workshop. This meeting, facilitated by Drs. Jessica McArt, Mark Rishniw, and Gerlinde Van de Walle, provided an opportunity to reflect on the different aspects of advanced graduate training that were addressed in earlier meetings.

In a separate meeting, a case study illustrated “translational science.” The ensuing discussion led by Drs. Heidi Reesink and Erin Daugherity revealed how an individual trained to a high level of proficiency as both a clinical specialist and research scientist can extend the frontiers of knowledge through his or her capacity to define disease mechanisms at the cell or molecular level.
CAREERS IN INDUSTRY
Drs. Gerard Hickey, Emily Hickey, Peggy McCann, Natalie Hoepp, and Alex Byas discussed options for a variety of careers in the pharmaceutical industry. The students submitted questionnaires about their own experiences in veterinary science in advance and the facilitators then posed targeted questions to the students that explored their personal interests and qualifications for employment.

INFECTIOUS DISEASES
A workshop moderated by Drs. Terry Dermody, Sarah Caddy, Cynthia Leifer, and John Parker featured One Health-themed Scenarios focused on Rabies virus, Chagas Disease, Brucellosis, Hendra virus and monkeypox virus. These infectious agents are responsible for emerging or re-emerging diseases in humans and animals. Working in teams, the Program scholars conducted library research on the Scenarios, and then presented solutions to the questions raised in the scenarios and engaged and discussed each case with their peers and facilitators. Later in the day, the students met with the facilitators to discuss careers and the need for veterinary scientists in infectious disease research or veterinary public health.

LEADERSHIP ROLE PLAYING
Leadership and its attendant responsibilities are central considerations in the Leadership Program. Critical thinking and decision-making are featured in a scenario-based module that explores public health, economic, political, and social issues. Students and facilitators are assigned roles that oblige them to articulate, defend, or modify their views as the scenario unfolds. At the conclusion of the module, the facilitators comment on the exercise and discuss leadership principles they have adopted from their own careers. This year, Dr. David Fraser moderated the discussion with assistance from Mr. Michael Parker, and Drs. Franziska Grieder and Gerlinde Van de Walle.

PUBLIC HEALTH DISCUSSION
Drs. Karin Hoelzer, Emily Schmitt-Matzen, and Caroline Yancey discussed options for a variety of careers in Public Health. The facilitators discussed how advanced training, via either a Master in Public Health (MPH), a PhD, or both, provides veterinarians with endless opportunities to work in the field of Public Health in places such as academia, government agencies, or international organizations. They also described how a veterinary public health professional combines their knowledge of veterinary medicine, public health, and ecology, to monitor and control public health, food safety, and environmental threats.
NIH DISCUSSION
The National Institutes of Health and the Cornell University College of Veterinary Medicine have forged a partnership that offers program scholars the opportunity to learn about research conducted at the national premier biomedical research institution. This year’s participants met online with representatives from the NIH for a half-day of scientific presentations and discussions.

NATIONAL VETERINARY SCHOLARS’ SYMPOSIUM
The National Veterinary Scholars Symposium was held at the Rivercenter conference venue in St. Paul, Minnesota from August 4th to the 6th. Several of the Leadership Students attended the symposium and presented poster abstracts at the symposium, which attracts more than 500 veterinary students from around the United States. The symposium brings together students enrolled in summer research program where they present their research findings and hear talks and presentations from veterinary scientists.
PRESENTATIONS

Leadership Program scholars discussed their research in a series of presentations over two days at the conclusion of the program. A book prize was awarded to Amanda Flanagan for the best overall research achievement as judged by her underlying hypothesis, investigative protocol, results, and presentation. Additional prizes were awarded to Lucie Michel, Christina Kerkenpass, and Joséphine Marchand for exceptional achievements in integrative biology, cell biology, and molecular biology, respectively. Isabelle Towell was awarded a prize for the highest-ranking presentation by a scholar from the United Kingdom or Australia. The Selection Committee for the 2022 Leadership Program salutes these individuals and congratulates the entire group for their commitment to research and the excellence of their presentations.

Overall Program Prize — Amanda Flanagan
Integrative Biology Prize — Lucie Michel
UK-Australia Prize — Isabelle Towell
Cell Biology Prize — Christina Kerkenpass
Molecular Biology Prize — Joséphine Marchand
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<td>Research Project Previews</td>
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<td>Infectious Diseases Workshop</td>
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<td>July 21</td>
<td>Research Training Discussion</td>
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<td>July 25</td>
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<td>August 4-6</td>
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June 11 Career Exploration Discussion

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June 23 Meeting with NIH

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August 4-6 National Veterinary Scholars Symposium

August 8 Career Planning

August 10 Research Presentations

August 11 Research Presentations
   Farewell Dinner
Dr. Erin Daugherity  
Director  
Center for Animal Resources and Education, Cornell University

Dr. Terry Dermody  
Chair & Professor: Pediatrics  
University of Pittsburgh School of Medicine

Dr. David Fraser  
Emeritus Professor & Dean  
Animal Science  
University of Sydney

Dr. Karin Hoelzer  
Director  
Policy and Regulatory Affairs, National Organization for Rare Disorders

Dr. Natalie Hoepp  
Principal Scientist  
Merck

Dr. Mason Jager  
Assistant Professor  
Population Medicine & Diagnostic Sciences, Cornell University

Dr. John Parker  
Director  
Cornell Leadership Program for Veterinary Students, Cornell University

Mr. Michael Parker  
Trustee  
Albert C. Bostwick Foundation

Dr. Heidi Reesink  
Associate Professor  
Clinical Sciences, Cornell University

Dr. Robert Weiss  
Professor  
Associate Dean for Graduate Education, Cornell University

Dr. Caroline Yancey  
Associate Professor  
Public & Ecosystem Health, Cornell University
2022 Program Scholars and Their Research
Jude Aboukhater

Investigating Potential Biomarkers for Early Detection of Canine Splenic Hemangiosarcoma

My first year of veterinary school consisted of a plethora of experiences that reaffirmed my goal to become a transformative veterinarian at the intersection of clinical care and cancer biology research. With this passion, I applied to the leadership program in order to hone my critical thinking and research skills.

This summer I had the privilege of working in Dr. Coonrod's lab researching canine splenic hemangiosarcoma (HSA), a cancer of the vascular endothelium known to be a “silent killer” due to the lack of early detection methods for it - often leaving patients that present at the onset of their clinical symptoms with a 5-7 months prognosis. My project aimed to investigate potential biomarkers that can help develop early detection assays and differentiate HSA from benign masses. Using ChRO-seq data, we chose to investigate the CA V-1 gene since not only was it upregulated in HSA patients, but was also detectable in blood serum making it an ideal candidate for a detection assay. I spent my time in the lab running assays to measure CA V-1 transcript levels of malignant HSA endothelial cells and tissues as well as protein expression assays. Although the results proved to be discouraging in cells, they were very promising when I went on to test CA V-1 in tissues, which gave me insight into the nature of the tumor microenvironment.

I would like to thank the leadership program directors as well as the incredibly supportive team I found at my lab: Dr. Coonrod, Kelly, Chitvan and Brooke.

Lauren Bauer

The Difference in Bovine HDL Quality and its Relation to TNFα Cell Induced Death

The Cornell Leadership Program has been a unique opportunity to gain more hands-on laboratory experience. The various leadership workshops and dinners helped with global networking and helped to increase exposure to the wide variety of career paths within research.

This summer, I worked in Dr. Erica Behling-Kelly’s lab in the Department of Population Medicine and Diagnostic Sciences. I investigated the effects of bovine high-density lipoprotein (HDL) samples collected from healthy and clinically ill dairy cattle during the post-partum period. I gained experience with cell culture techniques and treated bovine aortic endothelial cells with HDL and TNFα to observe if there was a difference in HDL from healthy and sick cattle.

Before participating in the Cornell Leadership Program, I just started my final year at the Royal Veterinary College in London. My areas of interest include veterinary epidemiology, transboundary animal diseases, and sustainable small ruminant production to assist female smallholder farmers in low- and middle-income countries. Although my interests remained the same during the program, I gained translatable and highly practical laboratory skills while the workshops provided more information about career opportunities in research and academia. Additionally, this program highlighted the importance of effective team collaboration, networking, pushing the boundaries of one’s comfort zone, and taking the initiative while conducting experiments.

I am truly grateful for this opportunity and would like to thank all of the facilitators for organizing this year’s program.
Rachel Dufour
Evaluation of Herpes Simplex Virus ICP22 Function in Early Transcription

This summer I had the pleasure of working in the lab of Dr. Joel Baines researching herpes simplex transcription. About two-thirds of the human population is infected with human simplex virus 1 (HSV-1). HSV-1 is able to establish latency, and once reactivated can produce symptoms intermittently. During productive lytic infection, HSV-1 transcription is mediated by host RNA polymerase II, which is recruited to initiate a temporal cascade of viral gene expression. The immediate-early genes are transcribed first, and their protein products are required to continue viral replication. The function of one of the immediate-early genes and its protein, ICP22, in early transcriptional repression is curious as it is not known to be a virion component and so must be rapidly synthesized. The aim of the summer study was to evaluate the early role of ICP22 in HSV-1 transcription.

I am a 3rd year veterinary student at Louisiana State University School with an interest in infectious disease and immunological research. I applied to the program with the aims of exploring different careers, developing laboratory skills, and growing understanding of the research process. The Leadership Program has allowed me to explore new career opportunities and forge lifelong friendships. I extend my deepest gratitude to Drs. Parker, Van de Walle, and Fraser for facilitating such an amazing summer, to Elaine and Jackie for their support, and to Drs. Dunn, Birkenheuer, and Baines for letting me learn from them again this summer!

Amanda Flanagan
Identifying Factors that Promote Peripheral Nerve Regeneration

Since starting veterinary school, I knew that I wanted to have a career in research. I was interested in neuroscience, but I also knew that I lacked the research skills necessary to pursue research in this field. Fortunately, I was able to develop my knowledge of neurobiological research with the Lin Lab during the 2021 Veterinary Investigator Program, and this year I was able to continue my research as part of the Veterinary Leadership Program.

Peripheral nerve diseases such as traumatic and sensory neuropathies have been found in dogs and cats. A problem in this field is finding treatments that can slow the progress of these diseases. The Lin Lab focuses on developing novel treatments that help heal neuropathies, and this summer we determined the effects of protocadherins (PCDH) on mouse dorsal root ganglion (DRG) regeneration. We tested the effects of PCDHs on dissociated DRG neurons and on an in vivo mouse model where we transected and repaired the sciatic nerve. Based on preliminary findings, the application of PCDHs may provide a starting point for developing treatments that can delay the progression of peripheral nerve diseases.

I am very grateful that I was selected to participate in the Leadership Program, which allowed me to further develop my research skills and expose me to the variety of research career options for veterinarians. I would especially like to thank Dr. Lin for being an incredible mentor. Lastly, I would like to thank the NIH for funding my participation in this program.
Leadership

Lab Work
EMT and Metastasis: Understanding the role of CD73

The epithelial to mesenchymal transition (EMT), which converts epithelial cancer cells to more-mesenchymal derivatives, enables them to metastasize to distant organ sites. In addition, mesenchymal tumors that have activated the EMT program are resistant to immune checkpoint blockade therapies (ICB). Moreover, abrogating CD73 (an ectoenzyme that generates adenosine), from mesenchymal cancer cells, renders their corresponding primary tumors completely responsive to ICB. However, whether targeting CD73 expression on mesenchymal cancer cells can also sensitize metastases to ICB is unknown. This is particularly important as metastasis contributes to 90% of all breast cancer related fatalities. Moreover, while primary tumors often respond to ICB therapies, metastatic outgrowths are largely resistant. Thus, the central focus of my project in the Dongre Lab was to determine whether abrogation of CD73 in mesenchymal cancer cells, could potentiate the efficacy of anti-CTLA4 ICB at the site of metastasis. I worked with a murine model of experimental lung metastases and determined whether treatment with ICB affected metastatic burden and the composition of immune cells in the lung tumor microenvironment.

I would like to sincerely thank Dr. Anushka Dongre for generously providing opportunities, mentorship, and support this summer. Thank you also to all the lab members (Lynna, Katy, Caitie, Isabel) and program members. I am grateful to the National Institute of Health for the scholarship supporting my research. As a third-year veterinary student who plans to pursue a career in lab animal medicine, the Leadership Program was an invaluable experience in the world of research.

Christina Kerkenpass

Engineering Chimeric Antigen Receptor (CAR) Lymphocytes to Target Feline Infectious Peritonitis Virus

I applied to the Cornell Veterinary Leadership Program two years ago to learn more about career opportunities as a veterinary researcher and to improve my leadership skills. I am very grateful that I was able to attend before I graduate in 2023 despite the delay due to the Covid pandemic. My expectations of the program have been more than fulfilled. The workshops broadened my horizons and gave me many things to think about. I was also able to step out of my comfort zone and work on my presentation skills. It was a unique experience to meet like-minded people and to build new friendships. Natasha, thanks for being the good soul of the house.

My summer project at the Leifer lab focused on the disease caused by feline infectious peritonitis virus (FIPV). FIPV is a fatal coronavirus infection of cats for which there is no approved therapy beyond management of symptoms. My work this summer focused on providing proof-of-concept for genetically engineering feline immune cells to detect and kill virally-infected cells using a chimeric antigen receptor (CAR). CAR therapy has been used successfully to treat human cancer. Results from these studies could improve feline health and will demonstrate the utility of CAR therapy against acute coronavirus infections.

Thanks, Dr. Cindy Leifer, for hosting me in your very welcoming lab environment. Special thanks to Jamie. You took me under your wings and it was a great pleasure to work with you.

I would also like to thank Drs. Van de Walle, Parker, and Fraser for running this outstanding program.
Samantha Lee

Investigating Genetic Risk Factors or Canine Cancer

I began veterinary school with the goal of pursuing a career in veterinary research. However, by the end of my second year of school, I still did not know what career opportunities were available for a veterinary scientist. The Leadership Program was instrumental in introducing me to research-based veterinary careers that I was previously unaware of. Going forward, I plan to continue veterinary research through a genetics PhD or clinical pathology residency. The program also allowed me to become close friends with veterinary students from all over the world who have similar career interests as myself, and I plan to keep these connections long into the future.

I worked in the Evans Lab researching canine genetic diseases, such as cancer. Gastric cancer disproportionately affects Belgian Shepherd breeds, indicating a genetic predisposition. I performed genome wide association studies to identify sites in the genome that are linked to gastric cancer susceptibility in these Belgian breeds. I also studied histiocytic sarcoma, a lethal neoplasia, which affects 20-25% of Flat-Coated Retrievers (FCRs). Previous work identified genetic factors that increase the risk of developing histiocytic sarcoma. To validate the association between these factors and histiocytic sarcoma, I genotyped a UK cohort of FCRs. This data also allowed us to compare the frequency of risk factors across geographically distinct FCR populations, which is important because different combinations of these genetic factors alter a dog's risk of disease. Understanding the distribution of the risk factors in FCRs is necessary for accurately assessing individual disease risk.

Joséphine Marchand

Major Histocompatibility Complex Haplotypes in the Nokota Horse Breed

As a rising last year veterinary student at Utrecht University, I applied to the Leadership Program to obtain more research experience, hoping I can combine my love for teaching, clinical work, and research in a career in academia.

This summer I worked in Dr. Doug Antczak’s lab, on a project that studied the diversity of the major histocompatibility complex (MHC) region in the genome of the Nokota horse, descendants form a feral horse population in North Dakota of largely unknown genetic ancestry. By studying the extent of MHC variation, we can say something about the breed’s diversity. We were able to confirm 12 new haplotypes, 9 of which had not been observed previously in any horse breed. Another big part of my work was helping to organize the International Havemeyer Horse Genome Workshop, a conference for 100 scientist who work in horse genetics.

The Leadership Program really helped open my eyes about the pros and cons to various careers for veterinarians outside of private practice. With my graduation in sight (summer of 2023), I was able to plan the start of the career with the help of the program. After a couple of years in an equine private practice, my aim is to apply to a PhD-position or a residency in (equine) reproduction.

It was a true pleasure working in the Antczak lab this summer. Dr. Antczak has shown me how valuable great mentorship can be. A special thank you to Don Miller, who was ever so patient with me explaining our experiments, and to Maya Kulikowski and my fellow Leadership students for the friendship. A sincere thank you to the program directors and I am grateful for the financial support of the Bostwick Foundation for this fantastic summer experience.
Lucie Michel

Spatial and social structure in rewilded laboratory mice

Since high school, I have been interested in pursuing a career in research, and especially in behavior – the Leadership Program was then the perfect opportunity for me to strengthen my decision and to discover what research was like in a US lab. I was able to meet amazing people in the Sheehan lab and to work on a fascinating project.

Lab mice have been bred for generations to become more docile and to live in small, enclosed environments. We wanted to see the impact of genetics on spatial and social structure by observing a group of lab mice in a large outdoor enclosure for 10 days and by comparing them to wild mice. Thanks to RFID chips and cameras, we were able to watch them and describe the interactions to reveal their territoriality. We were able to show that female lab mice tend to explore much more than their wild counterparts, and that male lab mice spend more time before displaying the aggressive interactions that lead to a structured territory.

This project is in perfect line with the Master’s degree in ecology, behavior and evolution that I will start next year. After my graduation, I aim to begin a PhD and enter a research-based career in this area. I would like to thank Dr. Michael Sheehan and Caleb Vogt, as well as the whole team, for their help and guidance.

Zoe Raw

Development of a novel vaccine to prevent feline coronavirus (FCoV) disease

Feline coronavirus (FCoV) is an RNA virus that infects cats worldwide. Its symptoms are usually mild, but mutations of the virus can cause a systemic acute inflammatory response, resulting in Feline Infectious Peritonitis (FIP), a serious disease that is usually fatal. I worked in Dr. Aguilar-Carreno’s lab on viral entry and vaccine development, including the development of a vaccine to prevent FCoV. This was my first experience of working in a wet lab, and it has been a phenomenal experience. I have enjoyed being involved in world-leading research projects, working with some great scientists in the fields of virology and vaccine development. I am extremely grateful to Dr. Aguilar-Carreno for allowing me to work with his team, and to my mentor, Shahrzad Ezzatpour, for her expert tuition, patience, mentoring and support. I’m also extremely grateful to all of the other lab members for being so welcoming, kind and supportive.

The Leadership Program has been an incredible opportunity and has opened my eyes to the many options available to pursue research in veterinary sciences after I graduate. I’m really interested in how a One Health approach can improve both human and animal health, and I have a particular interest in how environmental changes may influence patterns of disease spread, emergence, and zoonotic transmission. Once I have finished my veterinary degree at Bristol, I hope to return to Cornell to undertake a post-doc focusing on the ecology of pathogen spillover, in relation to climate change and population-level animal behavior.
Amy Richardson

The microbiome and its relation to the dermatopathology of the Elephant seal (Mirounga angustirostris)

I am a final year Veterinary student at the University of Liverpool with a keen interest in pathology and research. I applied to the leadership program whilst carrying out an intercalated degree in Comparative Pathology at the Royal Veterinary College, hoping to learn new lab skills, specifically molecular techniques, and to gain a better understanding of residency, PhD and career opportunities in America. The program has provided all this and more; I have found an amazing group of people who are supportive of their peers and are energized by the work they do, I hope to collaborate with many of them in the future.

I participated in two projects in the Goodman Lab. The first aims to determine how the microbiome of elephant seals differs between healthy versus diseased skin to improve current understanding of marine mammal health and aid conservation efforts in these species. The second is a survey of US wild mustelids that uses PCR and genome sequencing to discover emerging coronaviruses infections that could potentially become pathogenic and determine if mustelids are reservoirs for these infections. I hope to apply the techniques I have learned in this program to a career in wildlife/forensic pathology.

I would like to thank Drs. Goodman, Flint, and Olarte Castillo for their support and guidance throughout this project, as well as Drs. Parker, Fraser, and Van de Walle for their dedication to this program and facilitating such an incredible experience of all attendees. I would also like to thank the Bostwick Family Foundation for funding this experience.

Alexandra Schlüter

Analysis of host-virus interactions of SARS-CoV2

The Cornell Leadership Program has been an incredible opportunity for me to spend my summer abroad at one of the most prestigious universities in the world. I was able to make various international contacts and the numerous workshops, as well as the work in the lab, have helped shaping my decision-making regarding my future career. Ever since I was little, I have strived to make a change and this program has shown me how far you can expand your influence if you keep your eye on the goal!

In my summer of 2022, I had the opportunity to experience intensive and applied high-level research first hand. I worked as part of the Diel lab in an international team and was able to build an excellent skill set of practical techniques in the lab. I would like to say a special thank you to Dr. Diel for the opportunity to work in his lab and to Mohammed Nooruzzaman for the excellent supervision.

I was part of an exciting project focusing on how a vaccine against SARS-CoV-2 could be made more efficient in the future. While current vaccines focus mainly on the spike protein, the genome of SARS-CoV-2 contains a total of 31 proteins, many of which are unexplored in terms of function and antigenicity. Using the cat as a model, we are trying to determine which other proteins of SARS-CoV-2 trigger a strong immune response and would be suitable as a possible component of a future vaccine.

1. **HOME UNIVERSITY /** Frei Universität, Germany
2. **CORNELL MENTOR /** Diego Diel
3. **FIELD/SPECIALIZATION /** Population Medicine & Diagnostic Sciences
4. **AWARD /** Bostwick Foundation
Anna Sullivan

Effect of Petazzoni longitudinal ulnar splitting and bi-oblique dynamic proximal ulnar osteotomy on contact mechanics of incongruent canine elbows

Canine elbow dysplasia (ED) causes pain and lameness. One feature of ED is incongruity between the radius and the ulna, resulting in abnormally high contact pressures in the elbow. Many surgical therapies exist to attempt to normalize radioulnar incongruity. The Bi-Oblique Dynamic Proximal Ulnar Osteotomy (BODPUO) is commonly utilized in clinical cases and the newly-proposed Petazzoni Longitudinal Ulnar Splitting (PLUS) is purported to result in less postoperative lameness than the BODPUO. Neither procedure has been studied to determine whether they resolve incongruity despite both already being applied in live animals.

I developed a cadaveric study and began preliminary testing comparing the BODPUO and PLUS procedures to evaluate the procedures’ ability to return the elbow contact areas and pressures to baseline after first creating incongruity. I completed a literature review and designed the methods based on similar studies, collaborated with colleagues to develop the machinery and protocol for the testing set-up, and performed dissections and surgical procedures to optimize the protocol. During pilot testing, weight bearing force was applied from the humerus to the distal limb while pressure sensors in the elbow measured contact area and contact pressures.

I am a rising second year at Cornell University College of Veterinary Medicine with an interest in orthopedics. I applied to the Leadership Program to learn more about clinical research and small animal orthopedic surgery. The time I spent working in Dr. Selena Tinga’s laboratory and creating new friendships this summer was invaluable, and I am incredibly thankful for this opportunity.

Isabelle Towell

Behavioral habituation following repeated stimulation of dorsal raphe serotonin neurons

As someone who has wanted to be a vet for a long time, I always assumed that would entail clinical practice. However, the Leadership Program has enlightened me on the other possibilities out there for veterinarians, such as research or industry.

This summer I had the pleasure of joining the Warden lab to investigate the behavioral effects of chronic serotonin (5-HT) stimulation. To do so, we used optogenetics to stimulate 5-HT neurons in the dorsal raphe nucleus and measured the associated locomotor response in an open field environment. We intended to repeat stimulation daily over several weeks to observe the long-term effects of repeated 5-HT stimulation. However, during our tests we could not observe any optogenetic response due to yet undetermined factors. Although unfortunate, I have learned a lot about the methods used in behavioral assays and optogenetics and it has made me think about the brain, emotion and behavior in a different way. I hope this research is carried out in the future as it has important implications for understanding the link between serotonin and behavior.

I would like to thank Dr. Melissa Warden for welcoming me into her lab and sharing her passion for neuroscience and knowledge; Cole Roland for mentoring me; and Eileen Troconis and Deepika Gupta for helping me every step of the way. I would also like to thank the Program directors for organizing such an incredible experience and the other leadership students for making this summer so fun and memorable.
Lotta Truyen

Surveying sialic acid receptors to understand the cell and species tropism of canine influenza virus

When the Leadership Program ends, I will have finished my 8th of eleven semesters of my studies of veterinary medicine and by now I am quite sure that I will go into research. That is why it has been such an amazing chance to gain not only research experience but also to meet so many inspiring, like-minded, and interesting people along the way. Furthermore, I have learned so much about potential career options and really appreciate the given advice for future career decisions.

I felt very honored to work in the Parrish Lab at the Baker Institute. My project was meant to examine the diversity of sialic acid (Sia) receptors across species that may impact canine influenza viruses. The influenza hemagglutinin is responsible for attaching to Sia and infecting the cell. Different species express different Sia (Neu5Ac and Neu5Gc), but because dogs lack a certain enzyme, they can only express the Neu5Ac form. To determine the differential display of Neu5Ac, Neu5Gc, or other Sia, I used a variety of molecular probes of viral proteins which bind Sia. I used these probes to screen cell culture cells of varied animals, as well as tissue sections to determine the display and distribution of the Sia receptors, with a particular focus on respiratory tissues and salivary glands.

I would like to thank Brian, Colin, Rob, Femi, and of course Wendy, for their help and support! I am grateful to the Margaret and Richard Riney Canine Health Center for providing the financial support.

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Sze Lynn Yuen

Effects of extracellular vesicles from triple-negative breast cancer cells on the tumor microenvironment

As a rising penultimate-year veterinary student at Cambridge University with an interest in pursuing specialty training in oncology, I applied to the Veterinary Leadership Program to gain knowledge about research careers in the veterinary profession, hone my professional skills, and build connections with like-minded individuals.

I completed my summer research in the Cerione lab, where one of the major focuses of the group involves studying extracellular vesicles (EVs). EVs have been shown to be important mediators of intercellular communication in various pathological and physiological processes. My project investigated the effect EVs generated by triple-negative breast cancer cells (MDA-MB-231 cell line) had on promoting cancer progression, particularly how they would affect non-cancerous cell types found within the breast tumor microenvironment. I discovered that the EVs from MDA-MB-231 cells contained the oncogene K-RAS, and these vesicles could promote signaling events in recipient normal mammary epithelial (MCF10A) cells. These findings suggest that EVs produced by highly aggressive cancers can impact the function of non-cancerous cells within the tumor microenvironment and promote cancer progression.

The program has been an invaluable experience; it has solidified my interest in translational science and provided insightful advice on how to best pursue my interest in cancer biology. I would like to thank all the Cerione lab members and especially, Drs. Rick Cerione, Marc Antonyak, and Fangyu Wang for their superb supervision and mentorship. I would also like to express my gratitude to Drs. Parker, Van de Walle, Fraser, and McGregor for organizing this fantastic program.

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HOME UNIVERSITY / TiHO, Hannover, Germany
CORNELL MENTOR / Colin Parrish
FIELD/SPECIALIZATION / Baker Institute for Animal Health
AWARD / Canine Health Center

HOME UNIVERSITY / University of Cambridge, UK
CORNELL MENTOR / Rick Cerione & Marc Antonyak
FIELD/SPECIALIZATION / Molecular Medicine
AWARD / Bostwick Foundation
Life Outside of the Laboratory

Apart from their intensive schedule, program scholars found time for many ‘off-duty’ activities.
Participants in the Leadership Program were housed in the Zeta Psi fraternity house on the Cornell Campus. They had exclusive use of the building for the ten-week period that the program was in session. Several events were scheduled there, typically in the evening in conjunction with a catered meal. The living arrangements enabled the scholars to socialize and relax in a convenient and pleasant campus environment.
Reunion Dinner
This year’s reunion dinner was held on Wednesday, July 27th. Four past participants returned to enjoy a catered meal and lively conversation.
STAYING CONNECTED

Program Alumni

Contact with Leadership Program graduates is maintained in order to strengthen the professional network forged at Cornell and to uphold the program’s tradition of excellence for the benefit of future scholars. Alumni are encouraged to make informed decisions about the advanced training needed to realize their professional goals.

The accompanying table lists degrees awarded to program graduates and degrees they are expected to receive after completing the academic programs in which they are presently registered. Not included in the list are degrees alumni received before they began their veterinary studies.

### ACADEMIC QUALIFICATIONS OF ALUMNI OF THE LEADERSHIP PROGRAM (1990-2019)

<table>
<thead>
<tr>
<th>DEGREE</th>
<th>NORTH AMERICAN ALUMNI (N=326)</th>
<th>OTHER COUNTRIES ALUMNI (N=353)</th>
<th>TOTAL ALUMNI (N=679)</th>
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<tbody>
<tr>
<td></td>
<td>NO. %</td>
<td>NO. %</td>
<td>%</td>
</tr>
<tr>
<td>PhD</td>
<td>52 16.0%</td>
<td>168 47.6%</td>
<td>32.4%</td>
</tr>
<tr>
<td>Dr. Med. Vet.</td>
<td>NA NA</td>
<td>27 30.7%*</td>
<td>NA</td>
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<tr>
<td>MPH</td>
<td>15 4.6%</td>
<td>8 2.3%</td>
<td>3.4%</td>
</tr>
<tr>
<td>MS</td>
<td>11 3.4%</td>
<td>19 5.4%</td>
<td>4.4%</td>
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</table>

*Numbers and percentage of German, Austrian, and Swiss Alumni (N=88)

The following table indicates that a substantial number of program alumni obtained residency training in the course of their graduate studies. One hundred and seven of these individuals were graduates of veterinary schools in North America while fifty-seven were alumni of schools located elsewhere in the world. It is tempting to speculate that the difference between the two groups reflects greater opportunities for residency training in North America although other, less obvious reasons may contribute to the observed difference.

### RESIDENCY TRAINING OF ALUMNI OF THE LEADERSHIP PROGRAM (1990-2019)

<table>
<thead>
<tr>
<th>TRAINING</th>
<th>NORTH AMERICAN ALUMNI (N=326)</th>
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<tr>
<td></td>
<td>NO. %</td>
<td>NO. %</td>
<td>%</td>
</tr>
<tr>
<td>Residency</td>
<td>126 38.7%</td>
<td>64 18.1%</td>
<td>28.0%</td>
</tr>
</tbody>
</table>
Where are they now?

Listed on the following pages are the positions currently occupied by program alumni (since 2020; see previous annual reports for earlier years) who have completed their veterinary education and are pursuing careers in science or public health.

### 2000

**Beth (Bellohusen) Brenninkmeyer**
Chief Veterinary Officer, Guiding Eyes for the Blind, Somers, NY, USA.

**Beatrice Bohme** Veterinary Surgeon, University of Liège, Liège, Belgium.

**Stephen Daley** Senior Lecturer, Immunology, Faculty of Health, Queensland University of Technology, Brisbane, Australia.

**Katy Evans** Jane H. Booker Chair in Canine Genetics, The Seeing Eye, Morristown, NJ, USA.

**Toby Floyd** Veterinary Research Pathologist, Animal Health and Veterinary Laboratories Agency, Addlestone, Surrey, UK.

**Rachel (Geisel) Allavena** Associate Professor, Pathology, and Deputy Head of School of Veterinary Science, University of Queensland, Gatton, Australia.

**Samuel Hamilton** Director, Occupational Disease and Chemicals Policy, Safework Australia, Canberra, Australia.

**Natali Krekeler** Senior Lecturer, Veterinary Reproduction, University of Melbourne, Werribee, Victoria, Australia.

**Jamie Lovaglio** Director Animal Services, Rocky Mountain Laboratories, Hamilton, MT, USA.

**Richard Luce** Program Director for the CDC Global Health Security Program in Democratic Republic of Congo.

**Knut Stieger** Professor, Ophthalmology, Justus-Liebig-Universität, Giessen, Germany.

**Joost Uilenreef** Head, Veterinary Anaesthesia and Pain management Services, Specialistische Dierenkliniek Utrecht, Netherlands.

**Kevin Woolard** Associate Professor, Pathology, Microbiology & Immunology, University of California, Davis, CA, USA.

### 2001

**Julie Chevrette** Associate Director, Animal Care, McGill University, Montreal, Quebec, Canada.

**Karin Hoelzer** Director, Public Health, Maximus, Washington, DC, USA.

**Katherine Hughes** Lecturer, Pathology, University of Cambridge, Cambridge, UK.

**Stephanie Janeczko** Vice President, Shelter Medicine Services at ASPCA, New York, NY, USA.

**Charles Johnson** Pathologist, East Central Veterinarians, Cambridge, MN, USA.

**Robert Klopfleisch** Professor, Pathology, Department of Veterinary Medicine, Institute of Veterinary Pathology, Freie Universität, Berlin, Germany.

**David Loch** Senior Associate, Patent and Trade-Marks Attorney, F.B. Rice, Brisbane, Australia.
Maeva May  Head of Policy, British Heart Foundation, London, UK.

Timothy Mishrall  Veterinary Research Scientist, Molecular Medicine, Lerner Research Institute, Cleveland Clinic, Cleveland, OH, USA.

Seung-Jin Park  Seoul Metropolitan Government Veterinarian, Seoul, South Korea.

Judith Phillips  Scientific Director, AlphaBioCom Medical Communications Philadelphia, PA, USA.

Kis (Robertson) Hale  Chief Public Health Veterinarian, OPHIS/USDA-FSIS, Washington, DC, USA.

Simon Starkey  Director, Veterinary Services & NY State Laboratory Animal Welfare Program, New York State Department of Health, Albany, NY, USA.

Jason Stayt  Director, Veterinary Clinical Pathology, NovaVet Diagnostics, Perth, Australia.

Amy Warren  Associate Professor Veterinary Pathology, University of Calgary, Canada.

Rachel (Windsor) Ballantyne  Country Sales Manager, Saint Vincent Group General Trading LLC, South Africa.

Robin Yates  Dean and Vice-Provost (Graduate Studies), Faculty of Veterinary Medicine, University of Calgary, Canada.

Bevin Zimmerman  Director, Pathology, Charles River Laboratories, Mansfield, OH, USA.

Karin Darpel  Head Orbivirus Research The Pirbright Institute, Guildford, UK.

Karyn Havas  Director, Veterinary Epidemiology Pipestone Veterinary Services, Ithaca NY, USA.

Steven Laing  Senior Pathologist-Scientist, Genentech, San Francisco, CA, USA.

Anne Lo  Consultant, Hong Kong.

Michael Mienaltowski  Associate Professor, Animal Science, University of California, Davis, CA, USA.

Andrew Miller  Associate Professor, Veterinary Pathology, Cornell University, Ithaca, NY, USA.

Simon Priestnall  Professor, Pathology, Royal Veterinary College, London, UK.

Kelly Still-Brooks  Assistant Professor, Dairy/Livestock Production Medicine, Colorado State University, Fort Collins, CO, USA.

Barbara Taennler (Wehrli)  Chief Veterinary Officer, Poultry, GalliVET SA, Switzerland.

Christine (Trezise) Bayley  Veterinary Pathologist, Gribbles Pathology, Melbourne, Australia.

Vivienne Yau  Associate Professor, Veterinary Medicine, Western University of Health Sciences, Pomona, CA, USA.

Lindsey Hamilton  Clinical Pharmacologist, Invetus Pty Ltd, Canberra, Australia.

Michael Krahn  Professor, Institute for Medical Cell Biology, University of Münster, Germany.

Heather Martin  Assistant Professor, Weill Cornell Medical College, New York, NY, USA.

Siobhan (Mor) La Roche  Reader in One Health Epidemiology and Population Health, University of Liverpool, UK.

Kate Patterson  Senior Visual Science Communications Officer, Garvan Institute of Medical Research, Sydney, Australia.

Karla Stucker  Science Teacher, Waterford School, Sandy, UT, USA.

Christianne Wrann  Assistant Professor, Medicine, Harvard Medical School, Boston, MA, USA.

The program ignited my interest in infectious diseases and opened my mind to professional aspects of veterinary medicine that I had not yet considered.

—LARISSA MINICUCCI, 1998
Leadership Program Alumni

2004

Anton Asare  Veterinary Medical Officer, USDA APHIS Veterinary Services, Lexington, SC, USA.

Carolin Block  Business Solutions Leader, Roche, Basel, Switzerland.

Matthew Breed  Senior Animal Program Veterinarian, Frederick National Laboratory for Cancer Research, Washington, DC, USA.

Andrew Broadbent  Assistant Professor, Virology, University of Maryland. College Park, MD, USA.

Karla Dreckmann  Senior Scientist Pharmaceuticals, Boehringer Ingelheim, Hannover, Germany.

Annika (Krengel) Weigold  Zoo Veterinarian, Wilhelma, Stuttgart, Germany.

Robert Ossiboff  Clinical Assistant Professor, University of Florida, Gainesville, FL, USA.

Allison Rogala  Assistant Professor, Pathology, University of North Carolina, Chapel Hill, NC, USA.

Duncan Russell  Associate Professor, Pathology, Oregon State University, Corvallis, OR, USA.

Baukje Schotanus  Freelance Medical Consultant, Utrecht, Netherlands.

Katherine Scollan  Associate Professor, Veterinary Cardiology, Oregon State University, Corvallis, OR, USA.

Ivana (Sekis) Calice  Academic Clinician, Department of Anaesthesiology and Perioperative Intensive-Care Medicine, Vetmeduni, Vienna, Austria.

Katy Townsend  Associate Professor, Small Animal Surgery, Oregon State University, Corvallis, OR, USA.

Claire (Underwood) van Eps  Assistant Professor, Large Animal Diagnostic Imaging, University of Pennsylvania, West Chester, PA, USA.

James Weemhoff  Senior Scientist, Hill's Pet Nutrition, Topeka, KS, USA.

2005

Krystal (Allen) Worthington  Laboratory Animal Veterinarian, NIMH, Bethesda, MD, USA.

Melanie Ammersbach  Veterinary Pathologist, University of California, Davis, CA, USA.

Hannah Bender  Veterinary Pathologist, Taronga Conservation Society, Sydney, Australia.

Hille Fieten  Director, Genetics of Companion Animals, Utrecht University, Netherlands.

Hilarie Jerauld  MS Candidate, Medical Research, Dept. of Medical Biochemistry and Microbiology, Uppsala University, Sweden.

Amanda Kreuder  Assistant Professor, Veterinary Microbiology & Preventive Medicine, Iowa State University, Ames, IA, USA.

Rebecca Mitchell  Representative in Georgia State Legislature, Atlanta, GA, USA.

Emily (Nestor) Truckenbrod  Assistant Professor, Epidemiology, University of Minnesota, St Paul, MN, USA.


Emily Orchard-Mills  Service Specialist, Federal. Department of Agriculture, Fisheries and Food, Canberra, Australia.

Trisha Oura  Assistant Professor, Diagnostic Imaging, Tufts University, Boston MA, USA.

Bo Raphael  Biosecurity Officer, Department of Agriculture, Fisheries and Food, Canberra, Australia.

Johanna Rigas  Veterinary Clinical Pathologist, Altasciences, Seattle, WA, USA.

Klara Saville  Head of animal health, animal welfare and community development at Brooke, Action for Working Horses and Donkeys, London, UK.

Catherine Trickett  Lecturer, Veterinary Nursing & Farriery, Myerscough College, Preston, UK.

Nina Weishaupt  Head, In Vivo Pharmacology, Xenon Pharmaceuticals Inc., Port Coquitlam, British Columbia, Canada.

2006

Stephanie Brien  PhD candidate, Conservation Medicine, University of Edinburgh, UK.

Onno Burfeind  Veterinary Service Specialist, Department of Agriculture, Futtercamp, Germany.

Bronwyn Clayton  Senior Policy Analyst, Agriculture Industry Development, Department of Jobs, Precincts and Regions, Melbourne, Australia.

Alexander Corbishley  Senior Lecturer in Farm Animal Practice, The Royal (Dick) School of Veterinary Studies, University of Edinburgh, UK.
Janny de Grauw  
Assistant Professor,  
Anaesthesiology, Utrecht University, Netherlands.

Louise Sullivan (Fitzgerald)  
Veterinary Pathologist,  
Vetnostics QML Pathology, Murarrie, Queensland, Australia.

Eva-Maria Laabs-Poos  
Government Veterinary Officer, Oldenburg, Germany.

Gelja (Maiwald) Surma  
Head of Business Development, SYNLAB.vet GmbH, Berlin, Germany.

Richard Meeson  
Professor Orthopedics, Royal Veterinary College, London, UK.

Ashley (Neary) Hartley  
Assistant Professor Small Animal Clinical Science, University of Tennessee, Knoxville, TN, USA.

Joseph Neary  
Senior Lecturer, Department of Livestock Health and Welfare, University of Liverpool, UK.

Tiffany Reed  
Veterinary Pathologist, Cook Research Incorporated, West Lafayette, IN, USA.

William Sander  
Assistant Professor, Preventive Medicine and Public Health, University of Illinois, Urbana-Champaign, IL, USA.

Lauren Sawchyn  
Medical Illustrator, Rowley, MA, USA.

Justine Shotton  
President, British Veterinary Association, Colden, London, UK.

2007

Patrick Ayscue  
Senior Biosecurity Fellow, Chan Zuckerberg Biohub, San Francisco, CA, USA.

Sonja Broer  
Professor, Pharmacology & Toxicology, Free University, Berlin, Germany.

Stephen Burr  
Postdoctoral Fellow, MRC Mitochondrial Biology Unit, Cambridge, UK.

Sarah Caddy (Wang)  
Assistant Professor, Virology, Baker Institute, Cornell University, Ithaca, NY, USA.

Elva Cha  
Associate Director, Global HEOR, Deciphera Pharmaceuticals Boston, MA, USA.

Boran Choi  
Research Fellow, National Institute Neurological Diseases and Stroke, NIH, Washington, DC, USA.

Ludwig Groeber  
Manager Customer Training, Intuitive Surgical, Hamburg, Germany.

Laura Grogan  
Research Fellow, Griffith University, Southport, Queensland, Australia.

Kate Johnson  
Lecturer, Animal Science, University of Reading, UK.

Kristin Lewis (Wilson)  
Principal Pathologist, Amgen, San Francisco, CA, USA.

Kay Russo  
Ruminant Research Specialist, Land O'Lakes Inc., Fort Collins, CO, USA.

Mihai Swift  
PhD candidate, Conservation Biology, Natural History Museum & King's College, London, UK.

Ryan Traslavina  
Pathologist, Antech Diagnostics, Hunt Valley, MD, USA.

Maria Volkmann  
Research Associate, Robert Koch Institute, Berlin, Germany.

Annemarie Voorbij  
Assistant Professor, Small Animal Internal Medicine, Utrecht University, Netherlands.

Shen Yang  
Senior Research Scientist, Cell Biology, Eidgenössische Technische Hochschule, Zürich, Switzerland.

The program was one of the most important experiences of my life.  
—JOANNA MIECZKO, 2008

2008

Rachel Acciacca  
Major, U.S. Army, Critical Care Specialist, Fort Campbell, TN, USA.

Hannes Bergmann  
Research Scientist, Institute of Epidemiology, Friedrich-Loeffler-Institut, Federal Research Institute for Animal Health, Greifswald-Insel Riems, Germany.

Lisa Holz  
Postdoctoral Fellow, Virology, University of Tuebingen, Stuttgart, Germany.

Jennifer Irving  
Pathology Resident, Royal Veterinary College, University of London, UK.

Sally Ann Iverson  
Preventive Medicine Fellow, Centers for Disease Control and Prevention, Phoenix, AZ, USA.
Joshua Leach MRC Clinical Research Fellow, Beatson Institute for Cancer Research, Glasgow, UK.

Ming Lui Clinical Veterinarian and Animal Health Team Manager, University of California, San Francisco, CA, USA.

Katherine McKelvey Academic Clinician, Theriogenology, North Carolina State University, Raleigh, NC, USA.

Anna Mleczko Veterinary Research Scientist/Study Director, Lovelace Biomedical Institute, Albuquerque, NM, USA.

Dallas New Veterinary Epidemiologist, Operational Solutions for Primary Industry, Wellington & Wairarapa, New Zealand.

Annelies Nijdam Postdoctoral Fellow, Epidemiology, Antoni van Leeuwenhoek Netherlands Cancer Institute, Utrecht, Netherlands.

Kimberley Schiller Senior Manager, Accenture Health and Public Service, London, UK.

James Swann Postdoctoral Fellow, Pharmacology, Kennedy Institute of Rheumatology, University of Oxford, UK.

Heidi Vesterinen Senior Veterinarian, Medtronic, Minneapolis, MN, USA.

2009

Guen Bradbury Innovation consultant, Innovia Technology, Cambridge, UK.

Floryne Buishand Lecturer, Small Animal Surgery, Royal Veterinary College, London, UK.

Nancy Erickson Postdoctoral Fellow, Institute of Veterinary Pathology, Department of Veterinary Medicine, Freie Universität, Berlin, Germany.

Jenna Gettings Postdoctoral Research Scientist, University of Georgia, Atlanta, GA, USA.

Laura Gey Postdoctoral Scientist, Pharmacology, Medical Centre, University of Bonn, Germany.

Kathrina Stewart Resident/MS Candidate, Purdue University College of Veterinary Medicine, Lafayette, IN, USA.

Jakob Trimpert Postdoctoral Scientist, Department of Veterinary Medicine, Institute of Virology, Freie Universität, Berlin, Germany.

Sarah van Rijn Academic Clinician, Small Animal Surgery and Orthopedics, Utrecht University, Netherlands.

Jolanda Verhoef Veterinary Pathologist, Charles River Laboratories, Montreal, Canada.

Line Greve PhD Candidate, Equine Medicine, Royal Veterinary College, London UK.

Sarah Hooper Assistant Professor Clinical Medicine, Ross University School of Veterinary Medicine, St. George Basseterre, Saint Kitts.

Sanne Hugen Resident, Medicine, Utrecht University, Netherlands.

Marie Kollerby Emergency Public Health Epidemiologist, Centers for Disease Control and Prevention, Atlanta, GA, USA.

Anne Kimmerlein Epidemiologist, VCA Animal Hospitals, Los Angeles, CA, USA.

Brina Lopez Assistant Professor, Large Animal Medicine, Midwestern University, Athens, GA, USA.

Kathleen O’Hara PhD Candidate, Epidemiology, UC Davis, CA, USA.

Hans Winkler Project Manager, Regulatory Affairs and Toxicology, WT Consulting, Zürich, Switzerland.

The Leadership Program gave me the confidence and vision to pursue further training in science.

—SARAH WOOD, 2011

Shuhei Ito Technical Service Specialist, Pfizer Co. Tokyo, Japan.

Emily Jeanes Resident, Ophthalmology, Royal Veterinary College, London, UK.

Greta Schmoyer Inspector, USDA, APHIS, Knoxville, TN, USA.


2010

Jennifer Cassano Assistant Professor of Equine Internal Medicine, University of California, Davis, CA, USA.

Gregory Dickens Innovation Consultant, Innovia Technology, Cambridge, UK.

Line Greve PhD Candidate, Equine Medicine, Royal Veterinary College, London UK.

Sarah Hooper Assistant Professor Clinical Medicine, Ross University School of Veterinary Medicine, St. George Basseterre, Saint Kitts.

Sanne Hugen Resident, Medicine, Utrecht University, Netherlands.

Marie Kollerby Emergency Public Health Epidemiologist, Centers for Disease Control and Prevention, Atlanta, GA, USA.

Anne Kimmerlein Epidemiologist, VCA Animal Hospitals, Los Angeles, CA, USA.

Brina Lopez Assistant Professor, Large Animal Medicine, Midwestern University, Athens, GA, USA.

Kathleen O’Hara PhD Candidate, Epidemiology, UC Davis, CA, USA.

Hans Winkler Project Manager, Regulatory Affairs and Toxicology, WT Consulting, Zürich, Switzerland.


Eliza Smith Program Manager, Kyeema Foundation, Brisbane, Queensland, Australia.

Luise Steltzer (Seeker) Postdoctoral Research Scientist, Cell Biology, Scottish Centre for Regenerative Medicine, Edinburgh, UK.

Daniel Woodburn Pathologist, Labcorp, Somerset, NJ, USA.
2011

Angel Abuelo Sebio
Associate Professor, Cattle Health and Well-being, Michigan State University, East Lansing, MI, USA.

Hannah Atkins
Assistant Professor, Pathology, University of North Carolina, Chapel Hill, NC, USA.

Jessica Beck
Postdoctoral Research Scientist, University of Veterinary Medicine, Vienna, Austria.

Heather Rhoden
Clinical Instructor, NC State University, Raleigh, NC, USA.

Viktoria Rungelrath
Postdoctoral Scientist, Center for Translational Medicine, University of Montana, Hamilton, MO, USA.

Lauren Smith
Clinical Assistant Professor, Radiation Oncology, Texas A&M University, College Station, TX, USA.

Michelle White
Head Genomics, FidoCure, Palo Alto, CA, USA.

Sarah Wood
Research Chair in Pollinator Health, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, Canada.

Erasmus zu Ermgassen
Postdoctoral Researcher, sustainable livestock & supply chains, Université Catholique de Louvain, Ghent, Belgium.

2012

Luca Bertzbach
Postdoctoral Research Scientist, Leibniz-Institut für Virologie, Hamburg, Germany.

Deborah Burnett
Senior Lecturer, Immunology, St Vincent Clinical School, University of New South Wales, Sydney, Australia.

Iris Chan
Resident, Medicine, Langford Vets Small Animal Referral Hospital, Langford, UK.

Emily Cornwell
Veterinary Medical Officer, Food and Drug Administration, Washington, DC, USA.

Anna Maria Gartner
Laboratory Animal Veterinarian, Max-Planck Institute of Immunobiology and Epigenetics, Freiburg, Germany.

Anja Goodroe
Laboratory Animal Specialist (Primates), Texas Biomedical Research Institute, San Antonio, TX, USA.

Robert Holly
Military Health Care Provider, Fort Bragg, NC, USA.

Laura Schmertmann
Veterinary Compliance Officer, NSW Department of Primary Industries, Sydney, Australia.

2013

Casey Cazer
Assistant Professor, Epidemiology, Cornell University, Ithaca, NY, USA.

Frances Chen
Head, Veterinary Translational Medicine, Cellular Longevity, Inc., San Francisco, CA, USA.

Iva Cvitas
Resident, Pathology, University of Berne, Switzerland.

Angus Fisk
Postdoctoral Researcher, Nuffield Department of Clinical Neurosciences, Sleep and Circadian Neuroscience Institute, University of Oxford, UK.

Krystana Foh
Data Engineer, Benocs, Berlin, Germany.

Lucy Hardwick
Research Scientist, Defense Science Laboratory, Porton Down, UK.
50 Countries Represented

Silvia Janska Co-Founder. CEO, Flexee Ltd, Croydon, UK.

Wilfred Leung Scientist, Oncology Biomarker Discovery, Genentech, San Francisco, CA, USA.

Jenny Munhofen Major, U.S. Army, Critical Care Specialist, Fort Campbell, TN, USA.

Tessa Procter PhD Candidate, Pathology, University of Edinburgh, UK.

Hendrik Sake Veterinary Service Specialist, Swine, HIPRA, Hannover, Germany.

Neharika Saxena PhD Candidate, Epidemiology, Rajasthan University, Jaipur, India.

Svenja Wiechert (Sake) Medical Writer, SKC Consulting, Hannover, Germany.

2014

Alicia Braxton Postdoctoral Research Scientist Johns Hopkins University School of Medicine, Baltimore, MD, USA.

Isabel Ralle PhD candidate, Cardiology, Hannover Medical School, Hannover, Germany.

Marit van den Berg PhD Candidate, Medicine, Utrecht University, Netherlands.

Vanessa Oakes (Wallace) Clinical Instructor, Pathology, VA MD College of Veterinary Medicine, Blacksburg, VA, USA.

Lucy Watson Postdoctoral Scientist, Stem Cell Biology, Royal Veterinary College, London, UK.

Jonathan Wilson PhD Candidate, Pathology, University of Georgia, Athens, GA, USA.

2015

Souheyla Benfrid Virology project manager - Foot and mouth disease, National Health Security Agency – ANSES, Paris, France.

Elise Den Boer PhD Candidate, Animal Genetics, Utrecht University, Netherlands.

Alexa Edmunson Clinical Veterinarian, Charles River Laboratories, Ashland, OH, USA.

2016

Carolyn Bender Research Veterinarian, Crown Biosciences Inc., New Iberia, LA, USA.

Georg Beythien Resident, Pathology, University of Veterinary Medicine, Hannover, Germany.

Ariana Boltax Assistant Professor, Clinical, Tufts Veterinary School, Boston, MA, USA.
Kristina Ceres Combined DVM/PhD Candidate, Computational Epidemiology, Cornell University, Ithaca, NY, USA.

Elizabeth Goldsmith Resident, Pathology, Washington State University, Pullman, WA, USA.

Svenja Maier Consultant, Veterinary Clinic Management, Baden-Württemberg, Germany.

Anna Molyneux Head, Official Controls Regulation Policy & Legislation, Department for Environment, Food and Rural Affairs, London, UK.

Christopher Shiprack Resident, Clinical Pathology, University of Minnesota, Minneapolis, MN, USA.

Michelle Teunissen Postdoctoral Scientist, Regenerative Medicine, Utrecht University, Netherlands.

Brittany Zumbo Resident, Oncology, Cornell University College of Veterinary Medicine, Ithaca, NY, USA.

2018

Julia Linda Gaida Large Animal Resident, Oregon State University, Corvallis, OR, USA.

Grace Hood DPhil Candidate, Virology, University of Oxford, Oxford, UK.

Louise Grace Klass PhD Candidate, Institute of Veterinary Parasitology and Tropical Veterinary Medicine, Freie Universität Berlin, Germany.

I look back at the program as some of the best weeks of my life.

—DIMO NAUJOKAT, 2014

James Mullman Combined DVM/PhD Candidate, Cornell University, Ithaca, NY, USA.

Marie Elizabeth Nehring PhD Candidate, Pharmacology, Institute of Veterinary Parasitology and Tropical Veterinary Medicine, Freie Universität Berlin, Germany.

Michelle Reichert Resident, Veterinary Medicine, University of Minnesota, Twin Cities, MN, USA.

2019

Anneloes Andriessen PhD Candidate, Pathology, Utrecht University, Netherlands.

Honoria Brown Research Scholar, Medical Devices for horses, University of Pennsylvania, New Bolton Center, PA, USA.

Plotine Jardat PhD Candidate, Animal Behavior, National Institute for Agriculture, Food and the Environment, University of Tours, France.

Jessica Kohns PhD Candidate, Virology, Friedrich Loeffler Institute, Riems Island, Greifswald, Germany.

Neil Vezeau Supervisory Public Health Veterinarian, USDA Food Safety Inspection Service, HI, USA.

Rachael Wolters PhD Candidate, Pathology, Vanderbilt University, Nashville, TN, USA.

Elena zu Klampen PhD Candidate, Pathology, Friedrich Loeffler Institute, Mariensee, Germany.

Lisa Kossak PhD Candidate, Virology, Institute of Virology, Freie Universität Berlin, Germany.

Talitha Spanjersberg PhD Candidate, Medicine, Utrecht University, Netherlands.

Matthew Wun Resident, Medicine, Washington State University, Pullman, WA, USA.

Dylan Yaffy Resident, Pathology, Royal Veterinary College, London, UK.
ALUMNI SPOTLIGHT

Life on the Last Frontier of Interior Alaska

Dr. Karsten Hueffer, 1999

Starting veterinary school in Hannover, Germany, I saw a career path that would lead me to become a countryside veterinarian akin to James Herriot. However, during the last year of veterinary school in Germany we have a whole semester of externships and I spent part of that time attending the Leadership program at Cornell. It changed my life in many ways, personally and professionally, ultimately leading to a life on the Last Frontier of Interior Alaska with long winters and midnight sun filled summers. But let’s put things in order:

During veterinary School in Germany, I became more and more interested in the basic foundations of medicine. In the last year of veterinary school, I was accepted into the Leadership program and flew to Ithaca in the summer of 1999 with a good friend from Hannover who was also accepted into the program; I had all the general prejudices Europeans have towards the US, and then likely some more. Arriving in Ithaca cured me of most of these misconceptions about my now adopted home country. Working in Dr. George Lust’s group at the Baker Institute on cartilage damage and apoptosis was my first real experience of research and while the method development was challenging the work was ultimately very rewarding and resulted in co-authorship of my first peer reviewed publication a couple of years later. Apart from my first exposure to the challenges and rewards of laboratory research the professional development sessions transformed my outlook on a career in science. Meeting Dr. Colin Parrish paved the way to my PhD studies in his lab after graduating from veterinary school. During the Leadership Program was also the first time I met my now wife.

I liked my stay in Ithaca so much that I returned the following summer to begin my graduate studies on canine parvovirus cell biology and emergence. This deeper dive into microbial pathogenesis got me hooked and allowed me to spend some more years in beautiful Ithaca and with the great people at the Baker Institute.

After receiving my PhD from Cornell, I worked for three years on Salmonella pathogenesis at Yale Medical School under the mentorship of Jorge Galan as a post doc before moving North to the University of Alaska Fairbanks to begin a position as an Assistant Professor. In Alaska I fell in love with the circumpolar North and have been a dog musher for the last 15 years building a remote cabin in the wilderness, serving as volunteer firefighter for ten years and catching our yearly supply of 20 or so Copper River sockeye salmon. In 2014 we started a veterinary program at UAF in collaboration with Colorado State University. After 8 years teaching in a biology department, I was excited to move back into the veterinary field.
I now teach Veterinary Virology, Bacteriology and Research Methods in our program. My research program focuses on rabies and other zoonotic diseases with special emphasis on disease of the circumpolar North. I served as Associate Dean of the veterinary program for four years and since May this year I now serve as the interim Dean for the College of Natural Science and Mathematics at the University of Alaska Fairbanks. My professional and personal journey has taken quite a few turns and the Leadership Program for sure opened my eyes and opened doors. The journey has been very rewarding and working with students and colleagues has been and continues to be a true privilege.

Parrish Lab, 2002
FOR MORE INFORMATION:

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