LEADERSHIP PROGRAM FOR VETERINARY STUDENTS

Preparing tomorrow’s scientists and public health professionals, today.
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CREDITS

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Produced by the Cornell University College of Veterinary Medicine.

Cornell University is an equal-opportunity, affirmative-action education and employer.
The annual Cornell Leadership Program for Veterinary Students provides students from around the world with learning experiences that clarify and reinforce their commitment to careers in science.

Since its beginning 30 years ago, more than 690 students have participated in this summer semester program. Hailing from veterinary colleges from all corners of the globe, many have become scientific leaders within the veterinary profession.

Veterinary students are aware of what a career in clinical medicine entails, but are much less informed about careers in biomedical research, public health, or in the pharmaceutical industry. This leads to a critical shortage of veterinary scientists and endangers the future success of the veterinary profession.

Our program introduces the most talented of veterinary students to the attractions of biomedical research as a career and to provide them with practical career guidance on how to succeed.

Research is the major focus of the program. Our summer 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.

The 14 outstanding scholars who participated in 2019's program are featured throughout this annual report. And while it is too early to know exactly where they will take their careers; based on the achievements of our alumni, we can certainly expect great things from them!

John S. L. Parker, BVMS, PhD
Program Director
We Couldn’t Do It Without You

The Cornell University Leadership Program for Veterinary Students is only made possible by the generosity and support of numerous groups and individuals.

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

For their generous support, the program organizers wish to thank the following:

- Albert C. Bostwick Foundation
- Boehringer Ingelheim Inc.
- Cornell Feline Health Center
- Dr. Geoffrey Letchworth
- Deutscher Akademischer Austauschdienst
- Ernst Reuter Society
- Müller-Peddinghaus Stiftung
- National Institutes of Health
- University of Cambridge
- The Royal Veterinary College

The program organizers would also like to thank the facilitators, counselors, and mentors who took part in the 2019 program, as well as those who dedicate themselves to creating the best program possible:

- Calista-Rae Campbell, Program Student Coordinator
- Bonnie Coffin
- Kimberly Hayes
- Dr. Douglas McGregor

- Dr. David Fraser
- Ellen Leventry
- Alexis Wenski-Roberts
- and David Frank.

From time-to-time, the program organizers have described elements of the program, strategies for their implementation, and outcomes of this initiative. Recent publications include:


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.

“The program propelled me along the career path I am now pursuing.”

– Steven Daly, 2000
Exploring New Horizons in Veterinary Sciences

The Leadership Program for Veterinary Students at Cornell University is a unique summer research experience for veterinary students who seek to broadly influence the veterinary profession through a science-based career.

The Leadership Program combines faculty-guided research with student-directed learning through participation in modules, workshops, and group discussions. These 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.

Research

Each Leadership Program scholar is assigned a project and a faculty mentor to guide his or her research. The projects enable the students to gain practical experience by exploring problems of interest to them.

Simultaneously, students hone their communication skills through engagement in group discussions and by presenting their research findings in a public forum at the conclusion of the program.

Infectious Diseases

A workshop moderated by Professors Terence Dermody, Gerlinde Van de Walle, Brian VanderVen, and John Parker featured discussions of Zoonotic brucellosis, Crimean-Congo Hemorrhagic Fever, Rift Valley fever, and influenza. These infectious agents are responsible for emerging or re-emerging diseases in humans and animals.

Program scholars selected the diseases on which they wanted to focus. Then they conducted research on the topics and employed Socratic methods to engage their peers and facilitators in lively and informative discussions.

Later in the day, the facilitators commented on related issues and the need for veterinary scientists who contemplate careers in infectious disease research or veterinary public health.

Leadership

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 in their own careers.

This year, Professor David Fraser moderated the discussion with assistance from Dr. Simon Priestnall, Dr. Cynthia Leifer, and Professor Douglas McGregor.

Careers in Industry

Drs. Gerry Hickey, Emily Hickey and Peggy McCann discussed potential paths for veterinary students in industry. The facilitators helped the students practice answering questions for industrial interviews and engaged the students in debates about controversies within animal science and industry.

Career Explorations

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.

Professor John Parker hosted a panel that explored career options available to veterinary graduates who aspire to careers in science. Professor Gerlinde Van de Walle and Dr. Elizabeth Moore 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. Professors 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.

In a separate meeting, a case study illustrated “translational science.” The ensuing discussion led by Professor Kenneth Simpson 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.

2019 Program Agenda

- June 3: Opening Meeting Ethics Discussion, Tour of Vet College & Baker Institute, Welcome BBQ
- June 4: Student/Mentor Breakfast, Laboratory Orientation, CARE Training
- June 9: Career Exploration Discussion, Leadership Pre-Meeting
- June 10: Role Playing Leadership Module, Reception & Dinner with Mentors
- July 1: Research Project Previews
- July 8: Infectious Diseases Workshop
- July 11: Reunion Dinner
- July 15: Careers in Industry Workshop
- July 17: Research Training Discussion
- July 19: Leadership in Action
- July 26–28: National Veterinary Scholars Symposium
- July 29: Translational Science Discussion
- July 31: Cheese & Wine Gathering
- August 5: Career Planning Discussion
- August 8: Research Presentations, Farewell Dinner
Infectious Disease Workshop
A workshop moderated by Professors Terence Dermody, Gerlinde Van de Walle, Brian VanderVen, and John Parker featured discussions on infectious agents that are responsible for emerging or re-emerging diseases in humans and animals.

National Veterinary Scholarship Symposium
Many of this year’s students attended the National Veterinary Scholars Symposium hosted by Tufts Cummings School of Veterinary Medicine in Worcester, MA, July 26th to 28th. They presented their work in a poster session and enjoyed the opportunity to meet and interact with nearly 500 other veterinary students undertaking summer research programs.

Leadership in Action Workshop
The 1992 film “A Few Good Men” illustrates both the strengths and deficiencies of individuals cast in leadership roles. The students used the film as a jumping-off point to discuss leadership characteristics with Professors David Fraser and Douglas McGregor.

Careers in Industry Workshop
Drs. Gerry Hickey, Emily Hickey and Peggy McCann discussed potential paths for veterinary students in industry. The facilitators helped the students practice answering questions for industrial interviews and engaged the students in debates about controversies within animal science and industry.

Program Dinner
The Leadership Program scholars hosted a dinner for their mentors, module facilitators, counselors, and other guests on the grounds of the Baker Institute.
Dr. John Parker  
Associate Professor  
Microbiology & Immunology  
Cornell University

Dr. Hector Aguilar-Carreno  
Associate Professor  
Microbiology & Immunology  
Cornell University

Dr. Gerard Hickey  
President  
Synergy Regulatory Services

Dr. Simon Priestnall  
Professor  
Pathology  
Royal Veterinary College

Dr. Cindy Leifer  
Associate Professor  
Microbiology and Immunology  
Cornell University

Dr. Kenneth Simpson  
Professor  
Clinical Sciences  
Cornell University

Dr. Terence Dermody  
Chair & Professor: Pediatrics  
University of Pittsburgh School of Medicine
This summer’s scholars represent a diverse group of 14 veterinary students of eight different nationalities. They join over 600 alumni scholars from 50 different colleges and universities.
Australia, France, Germany, Britain, the Netherlands, and the United States. Our 2019 scholars hailed from every corner of the earth and represent just as many disciplines. Outside of the lab, their pursuits are just as diverse as their research, including music, dance, art and graphic design, dressage, a variety of sports, writing, photography, and slacklining.

This well-rounded excellence is reflected in the fierce competition amongst participants for the Leadership Program prizes awarded at the end of the 10-week session. The scholars discussed their research in a series of presentations over two days at the conclusion of the program.

A book prize was awarded to Anneloes Andriessen for the best overall research achievement as judged by her underlying hypothesis, investigative protocol, results, and presentation.

Additional prizes were awarded to Jessica Kohs, Annkatrin Flegel, Plotine Jardat, and Dylan Yaffy, for exceptional achievements in molecular biology, cell biology, and integrative biology, respectively.

Honoria Brown was awarded a prize for the highest-ranking presentation by a scholar from the United Kingdom or Australia.

The Selection Committee for the 2019 Leadership Program salutes these individuals and congratulates the entire group for their commitment to research and the excellence of their presentations.

Now, without further ado, get to know more about our 2019 scholars on the following pages.
Anneloes Andriessen
Extracellular vesicles and the maintenance of pluripotency in embryonic stem cells entire life

As a rising third-year veterinary master’s student at Utrecht University, I applied to the Cornell Leadership Program with the objective of obtaining more research experience. This past summer, I worked in Dr. Richard Cerione’s lab, on a project investigating the role of extracellular vesicles as a form of intercellular communication among embryonic stem cells.

Extracellular vesicles (EVs) have emerged as important mediators of intercellular communication in various physiological and pathological processes. In this project, we have discovered a role for this unique form of intercellular communication in helping maintain pluripotency in embryonic stem cells (ESCs).

Interestingly, when ESCs cultured under differentiating-promoting conditions are treated with EVs isolated from naive pluripotent ESCs, they are able to maintain stem cell-like phenotypes, including expressing the core stemness proteins Oct3/4 and Nanog, and forming and being propagated as spheres.

Together, these findings suggest that EV-mediated communication potentially serves as a novel mechanism that helps maintain pluripotency.

My research experience, in combination with the program’s organized workshops and modules, have been my most career-shaping experience so far. The workshops and networking opportunities confirmed my interest in translational science and provided me with guidance on how to pursue such a career track. I hope to follow a career path in the field of cancer biology and/or regenerative medicine.

I am extremely thankful to Rick Cerione, Marc Antonyak and Yun Ha Hur for their supervision and mentorship. I would also like to thank Drs. Parker, Fraser and McGregor for all the effort they put into the organization of this wonderful program. Finally, I am grateful to the Bostwick Foundation and Dr. Geoff Letchworth for their support of my participation.

Marine Bazin
Detection of EHV-2 and EHV-5 in gastric ulcers of horses

The presence of equine herpesviruses 2 and 5 (EHV-2 and EHV-5) has been reported in healthy and, with a higher frequency, in ulcerated gastric mucosa of horses. In order to better define the correlation of these viruses with gastric, we need to analyze a much larger sample set, including glandular ulcers, which causes remain unclear.

For that purpose, samples from normal as well as from ulcerous squamous and glandular gastric tissues have been collected, either via necropsy or biopsy. DNA has been extracted from these tissues and will be used in a qPCR assay to detect and quantify EHV-2 and/or EHV-5 DNA. The standard curve for this qPCR is currently being developed by cloning viral DNA, spanning a consensus region of glycoprotein B that is conserved in most strains of EHV-2 and EHV-5.

I aim to combine a career in research with clinical work in equine internal medicine. Thanks to the Leadership Program, I have a much clearer idea of how to achieve that goal and would like to pursue a residency in equine medicine followed by a PhD after graduating from veterinary school.

I am really thankful to my mentor, Dr. Gerlinde Van de Walle, for accepting me in her lab. I would also like to thank my supervisor, Dr. Joy Tomlinson, for her guidance, and Dr. Rebecca Harman for helping me carry out my experiments. I gained an invaluable research experience. I would also like to express my gratitude to Drs. Parker, Fraser and McGregor for leading such a remarkable program, and to the Müller-Peddinghaus fund for its financial support.

HOME UNIVERSITY: University of Veterinary Medicine Hannover (TiHO)
FIELD/SPECIALIZATION: Cancer Biology
CORNELL MENTOR: Gerlinde Van de Walle, Baker Institute
FUNDING: Mueller-Peddinghaus Fund

HOME UNIVERSITY: Utrecht University
FIELD/SPECIALIZATION: Stem Biology
CORNELL MENTOR: Rick Cerione, Molecular Medicine
FUNDING: Bostwick Foundation; Letchworth Gift
AWARD: Program Prize
Honoria Brown
*
*Investigating the role of miR-375 as a regulator of Wnt signaling in colorectal cancer*

My project focused on the role of microRNAs (miRNAs) in colorectal cancer (CRC). Colorectal cancer is the second leading cause of cancer-related mortality worldwide and there is a great need to identify novel therapeutics. miRNAs have been shown to promote cancer phenotypes and have been identified as potential therapeutic targets. miR-375 is one of the most highly expressed miRNAs in normal colon tissue, and is the most significantly downregulated in CRC. My project aimed to identify novel gene targets of miR-375 which may be mediating its tumor suppressive effects in an attempt to better understand its mechanistic role in CRC.

The Veterinary Leadership Program really opened my eyes to the research-oriented career possibilities available through veterinary medicine. I now feel more confident in the career direction I want to pursue. My current goals are to undertake a PhD following the completion of my vet degree. I would then love to enter research either through academia or industry, potentially with a biotech aspect. I feel that the Leadership Program has given me leadership experience, shown me what to look for in a research mentor, and given me lifelong friends and a network of like-minded vets from across the globe.

Thank you to Jonathan Villanueva and Dr. Charles Danko for their mentorship and support this summer and for giving me so much valuable teaching. Thank you also to all of the Program organizers for allowing this once-in-a-lifetime experience! Finally, thank you to Cambridge University for providing the financial support to allow me to participate in this program.

**HOME UNIVERSITY:** Cambridge University  
**FIELD/SPECIALIZATION:** Cancer Biology  
**CORNELL MENTOR:** Charles Danko, Baker Institute  
**FUNDING:** Cambridge University  
**AWARD:** UK & Australia Prize

Natrine Cheuk
*
*The role of SIRT5 in breast cancer progression*

As a rising second year at Purdue University with an interest in pursuing specialty training in internal medicine/oncology, I applied to the Leadership Program wanting to explore ways to integrate research in my veterinary career, improve my research skills, and network with other like-minded individuals. In the Weiss Lab, I investigated the role of SIRT5 in breast cancer progression. SIRT5 is a NAD-dependent deacetylase that catalyzes various physiological processes. While SIRT5 is dispensable in normal cells, it is amplified across cancers.

Previous studies in the Weiss lab have shown that Sirt5 loss decreases tumor progression in a transgenic breast cancer mouse model (MMTV-PyMT), where female mice are prone to developing mammary adenocarcinoma and spontaneous lung metastasis. We discovered pharmacological inhibition of SIRT5 in the MMTV-PyMT mouse model and human breast cancer xenograft model both impairs tumor growth.

To further investigate the role of SIRT5 in human breast cancer, we assessed the effect of SIRT5 loss in human triple-negative breast cancer cells (MDA-MB-231) and discovered that SIRT5 promotes anchorage-independent growth. Lastly, to establish SIRT5 as a therapeutic target, we developed a patient-derived xenograft model using NOD scid mice to compare tumor progression following SIRT5-specific inhibitor treatment.

I would love to take this opportunity to thank Dr. Robert Weiss and Irma Fernandez for their guidance and support throughout the summer. I would also like to thank Drs. Parker, Fraser, and McGregor for organizing this momentous program and providing insightful advice for my career. The program has far exceeded my expectations and I am walking away feeling informed and inspired to become a translational scientist.

Finally, I would like to thank the Bostwick Foundation and Dr. Geoff Letchworth for the financial support for my participation in the program.

**HOME UNIVERSITY:** Purdue University  
**FIELD/SPECIALIZATION:** Cancer Biology  
**CORNELL MENTOR:** Robert Weiss, Biomedical Sciences  
**FUNDING:** Bostwick Foundation; Letchworth Gift
Annkatrin Flegel
*Fusion-activation of Middle Eastern Respiratory Syndrome (MERS)-coronavirus (CoV) spike protein is influenced by calcium*

There are currently no efficient drugs or vaccines to treat or prevent ongoing outbreaks of MERS-CoV. This summer I investigated the effect of calcium ions on the fusion activity of the MERS-CoV spike protein. I found that MERS-CoV fusion is dependent on high calcium concentrations. We hypothesize that the positively charged calcium cation interacts with negatively charged amino acids in the fusion peptide of MERS-CoV and aids in viral fusion. This observation may provide insight into how viral fusion of MERS-CoV might be inhibited.

I would like to express my great gratitude to the Whittaker and Daniel lab for their guidance, support and exceptional mentoring throughout my project. Although I have a broad range of interests, I was excited to work on this project, as I have always been curious about problems involving emerging infectious diseases. This project was also aligned with my future career objectives and has me considering different career opportunities in this field. I am interested in conducting research on viral pathogenesis and transmission in the future. I can also picture myself working for a governmental institution to monitor and prevent disease outbreaks.

I am a third-year veterinary student from Germany. Joining the Cornell Leadership Program was a truly rewarding experience and has helped me with my career plans. My special thanks go to Drs. Fraser, Parker and McGregor for organizing this program. Finally, I would like to thank the DAAD for providing scholarship support and the Bostwick Foundation for providing support that allows this program to continue.

**Home University:** Freie Universität Berlin  
**Field/Specialization:** Virology  
**Cornell Mentor:** Susan Daniel and Gary Whittaker  
**Funding:** DAAD  
**Award:** Cell Biology Prize

Babette Fletemeyer
*Variants of the low affinity IgE receptor CD23 in horses and their expression in different cell populations*

CD23 is a low affinity receptor for IgE that is mainly expressed on B lymphocytes. It has an important role in immune regulation in the context of IgE responses and antigen presentation. Recently a population of peripheral blood mononuclear cells (PBMC) with high CD23 expression was found in horses allergic to Culicoides spp. The aim of my project was to characterize CD23 high cells and identify different CD23 variants in the horse.

I want to thank the whole Wagner Lab for welcoming me and making this summer such a great experience. Also, I want to thank Drs. Parker, Fraser and McGregor for putting so much effort into organizing this program. Due to my experiences I gained during the Leadership Program I am now certain about completing a PhD after graduation from vet school in 2023. I am interested in exploring a career in academia but also industry.

Finally, I am very grateful for the financial support from the DAAD and the Müller-Peddinghaus Stiftung that allowed me to participate in the program.

**Home University:** University of Veterinary Medicine Hannover (TiHO)  
**Field/Specialization:** Cancer Biology  
**Cornell Mentor:** Bettina Wagner  
**Funding:** DAAD; Müller-Peddinghaus Stiftung
Plotine Jardat  
*How do mice use their urine to communicate?*

Mice, like most mammals, use urine for communication with individual conspecifics. However, because of the difficulty of tracking urine deposition over long periods of time, very little is known about how mice dynamically allocate their urine to scent marking.

We have developed a novel and unobtrusive technique to measure scent marking decisions over multiple days in multiple mice. Three different species of mice were studied to compare the scent marking behaviors of groups of mice from different ecological and genetic backgrounds.

I would like to thank Prof. Michael Sheehan for welcoming me in his lab this summer and including me in the team investigating scent marking behavior in mice. In this project I worked hands-on with animals and conducted data analysis that included programming - two things I really enjoy in science.

In the future I would like to pursue a PhD focused on animal behavior. My goal is to improve animal welfare and I would like to help the veterinary community to better understand companion animal behavioral issues in a scientific way.

In addition to giving me the opportunity to gain experience in research among great scientists, this program has helped me to understand the importance and the nature of leadership in science and has shown me how I could play a role in making the world a better place. It has also provided me with a large network of potential mentors and collaborators, along with friends all over the world that I will keep for life. Thank you to the Bostwick Foundation and Dr. Geoff Letchworth for supporting my participation in this program.

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**HOME UNIVERSITY:** École Nationale Vétérinaire d’Alfort  
**FIELD/SPECIALIZATION:** Behavior  
**CORNELL MENTOR:** Michael Sheehan  
**NEUROBIOLOGY & BEHAVIOR**  
**FUNDING:** Bostwick Foundation, Letchworth Gift  
**AWARD:** Integrative Biology Prize

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Karuna Katariwala  
*PAR2 Expression and JNK Signaling-Inhibition in Murine Bone Marrow-Derived Macrophages*

Tumor cells are known to influence macrophage behavior and promote tumor growth and metastasis. However, the mechanisms are unknown.

We previously showed that tumor-derived microvesicles (MVs) contain tissue factor, have procoagulant activity, in a Protease-activated Receptor (PAR) 1-dependent manner. PARs are important G-protein coupled receptors for various enzymes, including activated coagulation factors.

I tested the hypothesis that cancer MVs would stimulate cellular signaling and upregulate procoagulant activity in macrophages in a PAR-dependent manner. I found preliminary evidence that MVs from tumor cells did upregulate procoagulant activity in macrophages.

As a rising second year veterinary student at Cornell, participation in the Leadership Program allowed me to explore different career opportunities veterinary medicine offer as well as submerge myself into a world of research. The Program provided me with the opportunity to meet wonderful people from around the world and create long-lasting friendships.

This summer, I had the incredible opportunity to pursue research in a field I’m interested in. This allowed me to further explore what area of post-graduate training I would like to pursue.

I would like to thank Drs. Stokol and Leifer for hosting me and being great mentors this summer. Thank you to Jingyi Chen, Dr. Linda Huang, Karla Garcia-Martinez, Abigail DeJohn and Sophie Reynolds for sharing their laboratory with me and helping me throughout the summer.

Finally, thank you to the organizers and to the Bostwick Foundation and Dr. Geoff Letchworth for the financial support that allowed me to participate.

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**HOME UNIVERSITY:** Cornell University  
**FIELD/SPECIALIZATION:** Cancer Biology  
**CORNELL MENTOR:** Tracy Stokol and Cindy Leifer  
**POPULATION MEDICINE & DIAGNOSTIC SCIENCE**  
**FUNDING:** Bostwick Foundation; Letchworth Gift
Jessica Kohs

Use of CRISPR-dCas9 to investigate the role of PAD2 in estrogen receptor alpha activity at specific genomic loci

There are approximately 250,000 new cases of breast cancer in the United States each year. Approximately 75% of those cases are estrogen receptor alpha positive (ERα+). Peptidylarginine deiminase 2 (PAD2) catalyzes the deimination (or alternatively, citrullination) of positively charged arginine to a neutrally charged citrulline on a range of target proteins, including histones.

Based on previous gene knockdown and inhibitor studies, we hypothesized that in ERα+ breast cancer cells, estrogen induces PAD2-mediated histone citrullination that alters the chromatin structure at ERα binding sites and enhances the interaction of ERα with DNA stimulating target gene transcription. The goal of my research project was to directly test this hypothesis using the endonuclease inactive, CRISPR dCas9 system.

For the project, I worked on developing a set of dCAS9-PAD2 fusion constructs (wild type, catalytic mutant, and calcium binding mutants). The overall goal of this project is to have a better understanding of the role and the importance of PAD2 in breast cancer.

I applied to the Cornell Leadership Program because it provided a unique opportunity to gain insight into various science-based graduate training and veterinary scientific careers. This program offered me new learning experiences in an inspiring environment of international participants. I truly enjoyed my stay at Cornell University.

I’d like to thank Dr. Coonrod for his mentorship. Special thanks to Brooke Marks, who was an amazing and patient teacher. I loved my time in the laboratory with such a friendly team! In addition, I’d like to thank Rae, Drs. Parker, McGregor and Fraser for such a fantastic program and Prof. Gruber for his support. Thank you to the Ernst-Reuter-Gesellschaft and the Bostwick Foundation for their funding which enabled me to participate in this wonderful program.

Lisa Kossak

Isolation of Hap 2 in Tetrahymena thermophilia

Tetrahymena thermophilia is a binucleate ciliated protozoan frequently used as a model organism. During sexual reproduction, two cells fuse and exchange DNA due to a fusogen called Hap 2. The goal of my project was to develop a technique to isolate this fusogen.

During my summer project I was able to isolate the HAP2 fusogen. Future experiments will determine how fusion works. This knowledge could be transferred to mammalian cells as we still do not know how the fusion of sperm with the egg occurs.

I am grateful to Dr. Theodore Clark whose mentoring and intellectual support were critical for my project. I also would like to thank Daniel Kolbin and Dr. Donna Cassidy-Hanley for their help and Ethan Seltzer, Zacharia Oliver and Mozammal Hossain for their technical support.

The Leadership Program was a special experience. I learned a lot scientifically but I also learned other things that will help me in my personal life and career choices.

During my project, I got an insight into a career in academic research. The leadership workshops were useful to learn how to behave in certain situations which can be transferred to any career.

Before the program I was interested in pursuing a career in research. Now I am sure that this plan is the right choice for me and that I do not want to become a clinician. After finishing my veterinary degree, I plan to do a PhD.

I would like to thank the organizers of the program and also the Ernst Reuter Society and the Bostwick Foundation for the financial support to participate in the program.

HOME UNIVERSITY: Freie Universität Berlin
FIELD/SPECIALIZATION: Cell Biology
CORNELL MENTOR: Ted Clark, Microbiology & Immunology
FUNDING: Ernst Reuter Society, Bostwick Foundation
AWARD: Molecular Biology Prize
**Lawrence Noble**

*Investigating the expression and the gene that encodes sialyl-4-O-acetyltransferase in red pulp macrophages in mice*

My project this summer was to isolate and culture red pulp macrophages (RPMs) from mouse spleens, and then to determine the gene responsible for the 4-O-acetylation of sialic acid. I isolated RPMs using magnetic cell separation (MCS) and further isolates cells expressing the 4-O-modification to analyze the specific genes expressed. Determining the gene that encodes for 4-O-acetylation of sialic acid would enable us to manipulate its activity and determine the roles that modified sialic acid plays in host resistance and susceptibility to pathogens.

Over the summer, I worked in the ‘Parrish lab’ at the Baker Institute for Animal Health. The skills I acquired from working with a number of postdocs and PhD students was incredible and I would like to thank each of them for their time, patience and hospitality.

The program has opened my eyes to the opportunities available for research and other careers in veterinary medicine. My career plan at the moment is to be clinical veterinarian and undertake additional training in the US in the fields of equine medicine or neurology. After spending some time in practice, I hope to transition into an academic position, as I have a passion for teaching and I enjoy clinical research.

I would like to thank the directors and my peers for an unforgettable summer and the opportunity to attend Cornell College of Veterinary Medicine. I also would like to thank the Feline Health Center for funding my participation in the program.

**HOME UNIVERSITY:** University of Queensland  
**FIELD/SPECIALIZATION:** Glycobiology  
**CORNELL MENTOR:** Colin Parrish  
**FUNDING:** Cornell Feline Health Center

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**Talitha Spanjersberg**

*Drug discovery in multidrug-resistant nontuberculous Mycobacterium abscessus*

Rapidly growing multidrug-resistant nontuberculous mycobacteria including Mycobacterium abscessus subspecies are responsible for a wide spectrum of skin and soft tissue diseases. In response to the urgent need for an effective drug against this emerging pathogen, we screened several hundred repurposed compounds that inhibit M. tuberculosis against M. abscessus to identify inhibitory compounds. The minimum inhibitory concentration values for hit compounds that possessed growth inhibiting properties were identified and ongoing work will include optimizing these compounds for potency and determining their mechanism of action.

The Leadership Program not only gave me insights in the different types of careers in research, but also taught me some valuable life lessons. I met many inspiring people and we were able to ask questions that I normally would not ask. My career goal is to connect the relevance of veterinary medicine to other fields such as one health or translational research. One of the things that I learned during the expert sessions is that most opportunities come unpredictably. Thanks to this program, I feel better prepared and equipped to choose (unexpected) career opportunities wisely.

I am thankful to the members of the VanderVen lab for a fantastic 10 weeks this summer. In particular, I would like to thank Dr. Brian VanderVen for his mentorship and Emma Roszkowski for all her help with the experiments. I am very grateful to Drs. Fraser, McGregor and Parker for all the time and effort they put in organizing this outstanding program. Finally, I am grateful for the financial support from the Bostwick Foundation.

**HOME UNIVERSITY:** Utrecht University  
**FIELD/SPECIALIZATION:** Bacteriology, Drug Discovery  
**CORNELL MENTOR:** Brian VanderVen  
**FUNDING:** Bostwick Foundation
Matthew Wun
The search for novel antimicrobial agents derived from secreted products of resident symbiotic gut bacteria

I’m a final-year vet student at the Sydney School of Veterinary Science. I spent this summer in Prof. Kenny Simpson’s lab working on a project focused on discovering novel therapeutics directed against inflammatory bowel disease (IBD)-associated dysbiosis. This ‘dysbiosis’ is characterized by an increase in opportunistic pathosymbionts (OPSs) and a decrease in resident symbionts (RSs), and may contribute to the pathogenesis of IBD. We found that the cell-free supernatants (CFSs) from two RSs suppressed the growth of various OPSs but not RSs. Through various purification and analytical techniques, we identified candidate molecules in the CFSs that may be responsible for this antimicrobial activity. We hope this will open novel therapeutic avenues for selective intervention against IBD-associated dysbiosis.

The program has inspired me to pursue a career as a translational scientist, studying disease mechanisms at a cellular and molecular level in order to develop novel diagnostic and treatment options that improve clinical outcomes. Thanks to the various program workshops and support network it has provided, I now feel much more confident as an individual and am excited to work towards my career goals.

Thank you to my wonderful supervisor Shiying Zhang for her guidance, my mentor Kenny Simpson for his endless ideas, advice and knowledge, and Drs. Parker, Fraser and McGregor for organizing this fantastic program. I’d also like to thank my fellow students for the friendship that made the past 10 weeks so enjoyable – it’s been a privilege to share this journey with you all. Finally, thank you to the Feline Health Center for supplying the funding that allowed me to participate in the program.

HOME UNIVERSITY: University of Sydney
FIELD/SPECIALIZATION: Bacteriology
CORNELL MENTOR: Kenneth Simpson
Clinical Services, Feline Health Center
FUNDING: Cornell Feline Health Center

Dylan Yaffy
Transmission dynamics of highly pathogenic avian influenza among multiple waterfowl species and poultry: The impact of migration timing

Outbreaks of highly pathogenic avian influenza (HPAI) among wild birds and poultry pose a risk to human health and increase concern about the likelihood of another epidemic comparable to that of 2016/17 when H5N8 swept across Europe. With a focus on species overlap during migration, we modeled the transmission of HPAI between wild birds and domestic poultry at wetland regions in Croatia. We developed a deterministic SIR compartmental model that can account for both the direct and indirect modes of pathogen transmission among 4 bird species. The model includes compartments for backyard poultry and compartments for Mute Swans, a sentinel species for HPAI outbreaks. Additionally, we modeled Mallards, an asymptomatic carrier of HPAI, represented with two groups of compartments corresponding to the migratory and non-migratory (resident) birds.

I will graduate from the Royal Veterinary College next year. The Leadership Program gave me an opportunity to explore career options and network with professionals who are in positions I aspire to attain. My research experience further helped me decide to focus my career on conservation medicine. At Cornell, I used mathematical modelling to evaluate the effect of overlap between stopover periods of different migratory waterfowl species on the epidemiology of highly pathogenic avian influenza. This project introduced me to disease modeling and helped build a strong basis for future wildlife epidemiology projects I hope to undertake.

I would like to thank Dr. Renata Ivanek for her mentorship, Dr. Wendy Beauvais for her guidance throughout the project and the Ivanek lab for a great learning environment. I am grateful to the program directors, Drs. Parker, Fraser and McGregor, and Royal Veterinary College for the generous funding support.

HOME UNIVERSITY: Royal Veterinary College
FIELD/SPECIALIZATION: Epidemiology, Modeling
CORNELL MENTOR: Renata Ivanek
Population Medicine & Diagnostic Science
FUNDING: Royal Veterinary College
AWARD: Integrative Biology Prize
Life Outside of the Laboratory

From local Ithaca landmarks to cultural centers within striking distance of campus, the scholars enjoyed time away from the classroom.

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.

From paintball (right) to baseball (below):
While in Boston for the National Veterinary Scholarship Symposium, the students stopped by Fenway Park to catch the Red Sox play the Yankees. They also took a day to engage in some team play of their own—battling it out at Ithaca Paintball.
Exploring the Empire State: Students experienced both the nature of Upstate New York (left: Taughannock Falls) and the hustle-and-bustle of New York City.
Discovering New Directions

It’s funny how little moments can change your life in big ways.

Written by Rachel Allavena, 2000

I was standing in a cow yard listening to my production animal lecturer during a practical when he mentioned the Cornell Veterinary Leadership Program and encouraged all of us to apply.

I had intercalated a one-year research degree with my veterinary training at The University of Queensland, School of Veterinary Science. I worked on the anatomy of Pteropid bats, or flying foxes, which act as a vector for the Australian bat Lyssa virus and Hendra virus. Having already had a taste of research, I was keen for more.

My university was very accommodating in allowing me to move my final year clinical rotations to fit the schedule of the program, as the American summer falls smack bang into the middle of our Australian academic year.

It was very exciting to arrive in New York City and make my way up to Ithaca—which is like a paradise in summer.

During the program, I worked in the laboratory of Dr. Colin Parrish at the Baker Institute, helping clone the canine transferrin receptor that the team was researching for Parvovirus cell entry. As an undergraduate researcher, I was lucky enough to be included on their paper, which is still one of my highest cited research outputs!
The program was just amazing. It opened my eyes to an international career in biomedical research, as well as how versatile a veterinary science degree is for helping both animals and people. I graduated that year, and could not wait to come back to Cornell for my PhD in Comparative Medicine, working on tuberculosis with Prof. David Russell.

After my PhD, I did a pathology residency at Ontario Veterinary College in Canada, and after board certification worked in Europe in pharmaceutical development and drug safety testing.

After 10 years overseas, I returned home to Australia and The University of Queensland as a faculty member. I am an active researcher in comparative medicine, developing novel immunotherapies to treat pet dogs with cancer, and provide data for human clinical trials. My current research is on immunotherapies, metallic alloys for biomedical devices, and koala conservation.

I enjoy working on projects where animal and human health is progressed in parallel with a true one-medicine approach.

Personal and Professional: A Life Changing Experience

I ended up leaving Cornell with more than a PhD. I met my husband, a French computer scientist doctoral candidate, and had the most amazing time living in Ithaca. Shoveling snow off the driveway in the winter, exploring the woods and waterfalls in the summer, and commencement in the football stadium are all beautiful memories. Maybe not the snow shoveling, but it is certainly a novelty if you come from Florida-like Queensland.

In the Cornell Leadership Program, I learned skills in communication, research, leadership, drug development, and work life balance. I now use these every day in my role as an anatomic pathologist, researcher, teacher and Deputy Head of School. Academia is a crazy life, but I see something new or learn something every day. I worked out recently that my residents and I discover a new disease every couple of months.

I think I have one of the coolest jobs there is. I’ve cured pets of terminal cancer and I’ve contributed to our understanding of what is driving Queensland koalas to extinction. I am in awe of my brilliant students, and it is a privilege to help mentor them. Now it is their turn to attend the Cornell Leadership Program.

Here’s what other alumni are saying about their experience:

• “Very happy memories.” — Christine Broster, 1999
• “An amazing experience.” — Maeva May, 2001
• “A great inspiration for me.” — Anton Asare, 2004
• “An awesome summer at Cornell.” — Hannah Bender, 2005
• “I often think of the great time I had in Ithaca.” — Annemarie Voorbij, 2007
• “I miss Ithaca, Cornell, and especially the Leadership Program.” — Maria Volkmann, 2007
• “I enjoyed the program immensely.” — Jenna Gettings, 2009
• “I look back at the program as some of the best weeks of my life.” — Dimo Naujokat, 2014

Reunion Dinner
This year’s dinner was held on Thursday, July 11. Four past participants returned to enjoy a catered meal and lively conversation (from left to right): James Mullman, 2018; Simon Frueh, 2015; Ari Boltax, 2016; and, Yun-ha Hur, 2015.
“The Leadership Program gave me the confidence and vision to pursue further training in science.”
– Sarah Wood, 2011

Staying Connected

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.

The following table indicates that a substantial number of program alumni obtained residency training in the course of their graduate studies. One hundred and twenty-four of these individuals were graduates of veterinary schools in North America while sixty-one 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.
Listed below are the positions currently occupied by program alumni who have completed their veterinary education and are pursuing careers in science or public health.

1990
John Angelos: Professor, Medicine and Epidemiology, U. California, Davis, CA
William Carr: Associate Professor, Biology, Medgar Evers College, University of New York, NY
Laura Gumprecht: Director, Safety Assessment, Merck Research Laboratory, Philadelphia, PA
Richard Haworth: Head, Pathology, GlaxoSmithKline, Middlesex, UK
Elizabeth Lyon-Hannah: Associate Professor, Epidemiology, Boise State U., Boise, ID
Melissa Mazan: Professor, Clinical Sciences, Tufts U., North Grafton, MA
Rebecca Papendick: Senior Scientist, Zoological Society of San Diego, CA
Susan Schaefer: Associate Professor, Surgery, U. Wisconsin, Madison, WI
A. W. (Dan) Tucker: Reader, Veterinary Public Health, U. Cambridge, UK
Thomas Vahlenkamp: Professor and Head, Institute of Virology, School of Veterinary Medicine, Leipzig, Germany

1991
Prema Arasu: University Policy Advisor, North Carolina State U., Raleigh, NC
David Bainbridge: Veterinary Anatomist and Reproductive Biologist, U. Cambridge, UK
Linda Berent: Associate Dean, Academic Affairs, College of Veterinary Medicine, U. Missouri, Columbia, MO
Ian Davis: Associate Professor, Biosciences, The Ohio State U., Columbus, OH
Judy Hickman-Davis: Professor, Veterinary Preventive Medicine, The Ohio State U., Columbus, OH
Alan Radford: Reader, Infection Biology, U. Liverpool, UK

1992
Tomasz Betkowski: Site and Resource Manager, Quintiles, Warsaw, Poland
Stephen Davies: Associate Professor, Parasitology, Uniformed Services U., Bethesda, MD
Mathew Gerard: Teaching Professor, Anatomy and Surgery, North Carolina State U., Raleigh, NC
Jaqueline Phillips: Professor, Neuroscience, Macquarie U., Sydney, AU
Cristina Rodrigues-Sanchez: Technical Associate, Academic Diagnostic Biology, UNAM, Mexico
Louise Southwood: Associate Professor, Large Animal Emergency Medicine and Critical Care, U. Pennsylvania, New Bolton Center, Kennett Square, PA
Reinhart Straubinger: Dean, School of Veterinary Medicine, Ludwig Maximilian U., Munich, Germany

1993
Virginia Fajt: Professor, Pharmacology, Texas A & M, College Station, TX
Melinda Stewart Gabor: Principal Veterinary Pathologist, Elizabeth Macarthur Agricultural Institute, Menangle, AU
Deborah Hoyle: Epidemiologist, Roslin Institute, U. Edinburgh, UK
Christopher Laing: Executive Director, Capital City Innovation, Inc., Austin, TX
Emma Massey O’Neill: Associate Professor, Small Animal Medicine, University College, Dublin, Ireland
Joanne Rainger: Animal Anesthesiologist,
1994
Melissa Beall: Associate Director, Scientific Affairs, IDEXX Laboratories, Westbrook, MN
Larisa Bowman: Director, Mountain Veterinary Pathology, Inc., Ashville, NC
Leslie Gabor: Head, Pre-clinical Safety, Elanco Ltd, Sydney, AU
Maria Lara Tejero: Research Scientist, Microbial Pathogenesis, Yale U., New Haven, CT
Christopher Mariani: Associate Professor, Neurology and Neurosurgery, North Carolina State U., Raleigh, NC
Sonia Mumford: Veterinary Medical Officer, Olympia Fish Health Center, US Fish and Wildlife Service, Olympia, WA
Jeffrey Phillips: Associate Professor, Oncology, Lincoln Memorial U., Knoxville, TN
Stacy Pritt: Assistant Vice President, Institutional Policy Director, U. Texas, Dallas, TX
Mary Thompson: Associate Professor, Clinical Sciences, Murdoch U., Perth, AU
Oliver Turner: Senior Investigator, Novartis Institute for Biomedical Research, East Hanover, NJ

1995
Gertraut Altreuther: Clinical Project Manager, Parasitology, Beyer Animal Health, Leverkusen, Germany
Philipa Beard: Group Leader, Virology, Pirbright, UK
Kate Creevy: Associate Professor, Companion Animal Health, Texas A & M, College Station, TX
Rachael Gray: Senior Lecturer, Anatomy, Sydney U., AU
Wendy Harrison: Director, Schistosomiasis Research Center, Royal Veterinary College, London, UK
Andrew Moorhead: Director, Filaria Research Center, U. Georgia, Athens, GA
Anthony Mutsaers: Associate Professor, Clinical Studies, Ontario Veterinary College, Guelph, CA
Kellie Lorschky Stephenson: Professional Services Veterinarian, IDEXX SYDNEY, AU

1996
Mark Doherty: Portfolio Manager, Boehringer Ingelheim, Sydney, AU
Michelle Dries Kellaway: Executive Manager, Strategy and Growth, Qantas Ltd, Sydney, AU
Tamara Gull: Associate Professor, Pathology, U. Missouri, Columbia, MO
Antonia Jameson Jordan: Lecturer, Biomedical Sciences, Cornell U., Ithaca, NY
Ralph Senften: Head, Information Technology, Provet AG, Berne, Switzerland
Alison Stewart: Lecturer, Internal Medicine, U. Queensland, Brisbane, AU
Edwin van Duijnhoven: Fetal Morphologist, Charles River Laboratories, Nijmegen, NL

1997
Peter Bracken: Head, Regulatory Affairs for Animal Health, Boehringer Ingelheim, St. Joseph, MO
Rachel Walker D’arcy: Research Scientist, Elanco Ltd, U. Sydney, AU
Julia A. Happold: Senior Consultant, Ausvet, Canberra, AU
Tanya LeRoith: Associate Professor, Pathology, Virginia Tech. U., Roanoke, VA
Lucy Neave: Lecturer, Creative, Writing, Australia National U., Canberra, AU
Patricia Pesavento: Professor, Microbiology and Immunology, U. California, Davis, CA
Paul Plummer: Associate Professor, Microbiology, Iowa State U., Ames, IA
Jonathan Werner: Director, Pathology, Amgen Inc., Thousand Oaks, CA
Rebecca Wilcox: Senior Animal Welfare Officer, RMIT U., Melbourne, AU
Esther Wissink: Data Analyst, Sint Antonius Ziekenhuis, Amsterdam, NL

1998
Max Bastian: Principal Investigator, Friedrich-Loeffler Institute, Greifswald, Germany
Amanda Murphy deMestre: Reader, Reproductive Immunology, Royal Veterinary College, London, UK
Steven Fleischer: Director, Therapeutic Drugs Evaluation, Food and Drug Administration, Bethesda, MD
Karsten Hueffer: Associate Dean, Graduate Education, U. Alaska, Fairbanks, AK
Mary Klinck: Postdoctoral Fellow, Pharmacology, U. Montreal, CA
Zoe Lenard: Radiology Consultant: IDEXX Ltd, Perth, AU
Karen Lijebjelke: Assistant Professor, Bacteriology, Department of Ecosystem and Public Health, U. Calgary, CA
Larissa Minucci: Associate Professor, Epidemiology, Department of Population Medicine, U. Minnesota, St. Paul, MN
Erin Crotty Phipps: Program Manager, Public Health, U. New Mexico, NM
Anne-Marije Sparnaaij: Project Manager, Netherlands Food Safety Authority, Amsterdam, NL

1999
Erica Behling-Kelly: Associate Professor, Clinical Pathology, Cornell U., Ithaca, NY
Christine Broster Reix: PhD candidate, Microbiology, U. Bordeaux, France
Robert Dickens: Veterinary Medical Officer, USDA, Raleigh, NC
Joshua Fine: Principal Senior Scientific Advisor, Tunnell Government Services, Washington, DC
Peter Florian: Director, Pharmacology, R & D, Sanofi,
<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Title</th>
<th>Institution</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Rachel Geisel Allavena</td>
<td>Associate Professor</td>
<td>Pathology, U. Queensland, Brisbane, AU</td>
<td>Australia</td>
</tr>
<tr>
<td>2000</td>
<td>Stephen Daley</td>
<td>Senior Research Fellow</td>
<td>Biochemistry and Molecular Biology, Monash U., Melbourne, AU</td>
<td>Australia</td>
</tr>
<tr>
<td>2000</td>
<td>Katharine Evans</td>
<td>Jane H. Booker, Chair</td>
<td>Canine Genetics, Seeing Eye, Morristown, NJ</td>
<td>USA</td>
</tr>
<tr>
<td>2000</td>
<td>Toby Floyd</td>
<td>Research Pathologist</td>
<td>Animal Health and Veterinary Laboratories, Weybridge, UK</td>
<td>UK</td>
</tr>
<tr>
<td>2000</td>
<td>Samuel Hamilton</td>
<td>Director</td>
<td>Epidemiology, One Health, Department of Agriculture, Canberra, AU</td>
<td>Australia</td>
</tr>
<tr>
<td>2000</td>
<td>Natali Krekeler</td>
<td>Lecturer</td>
<td>Veterinary Reproduction, U. Melbourne, AU</td>
<td>Australia</td>
</tr>
<tr>
<td>2000</td>
<td>Jamie Lovaglio</td>
<td>Clinical Veterinarian</td>
<td>NIH, Bethesda, MD</td>
<td>USA</td>
</tr>
<tr>
<td>2000</td>
<td>Richard Luce</td>
<td>EIS Officer</td>
<td>Centers for Disease Control and Prevention, Atlanta, GA</td>
<td>USA</td>
</tr>
<tr>
<td>2000</td>
<td>Knut Stieger</td>
<td>Professor</td>
<td>Ophthalmology, U. Giessen, Germany</td>
<td>Germany</td>
</tr>
<tr>
<td>2000</td>
<td>Joost Uilenreef</td>
<td>Anesthesiologist</td>
<td>Primum Non Nocere, Amersfort, NL</td>
<td>Netherlands</td>
</tr>
<tr>
<td>2000</td>
<td>Kevin Woolard</td>
<td>Associate Professor</td>
<td>Pathology, U. California, Davis, CA</td>
<td>USA</td>
</tr>
<tr>
<td>2001</td>
<td>Rachel Windsor Ballantyne</td>
<td>MS candidate</td>
<td>Epidemiology, Royal Veterinary College, London, UK</td>
<td>UK</td>
</tr>
<tr>
<td>2001</td>
<td>Julie Chevrette</td>
<td>Associate Director</td>
<td>Animal Care, McGill U., Montreal, CA</td>
<td>Canada</td>
</tr>
<tr>
<td>2001</td>
<td>Kis Robertson Hale</td>
<td>Deputy Assistant Administrator</td>
<td>Office of Public Health Science, USDA, Washington, DC</td>
<td>USA</td>
</tr>
</tbody>
</table>
Lindsay Hamilton: Senior Veterinary Surgeon, Babraham Institute, Cambridge U., UK
Michael Krahn: Professor, Cell Biology, University Hospital of Münster, Germany
Heather Martin: Assistant Professor, Medical Sciences, Weill Medical School, Cornell U., New York, NY
Siobhan Mor: Reader, One Health, Epidemiology and Population Medicine, U. Liverpool, UK
Kate Patterson: Project Head, Garvan Institute of Medical Research, Sydney, AU
Karla Stucker: Science Teacher, George School, Newtown, PA
Lyn Wancket: Charles River Laboratories, Raleigh, NC
Christianne Wran: Assistant Professor, Medicine, Harvard Medical School, Boston, MA

2004
Anton Asare: Veterinary Medical Officer, USDA, APHIS, Columbia, SC
Carolin Block: Internal Clinical Trial Manager, Roche Pharma, Basel, Switzerland
Mathew Breed: Senior Animal Program Veterinarian, Frederick National Laboratory for Cancer, Frederick, MD
Andrew Broadbent: Research Fellow, Virology, Pirbright Institute, UK
Karla Dreckmann: Research Scientist, Vaccinology, Boehringer Ingelheim, Hannover, Germany
Robert Ossiboff: Assistant Professor, Wildlife Diseases, U. Florida, Gainesville, FL
Allison Rogala: Assistant Professor, Infectious Diseases, U. North Carolina, Chapel Hill, NC
Duncan Russell: Assistant Professor, Pathology, Oregon State U., Corvallis, OR
Baukje Schotanus: CEO, Health Care Professionals, BKC Media Nijmegen, NL
Katherine Scollan: Assistant Professor, Cardiology, Oregon State U., Corvallis, OR
Ivana Sekis: Resident Anesthesiology, U. Veterinary Medicine, Vienna, Austria
Katrina Stewart: Resident, Veterinary Clinical Sciences, Purdue U., West Lafayette, IN
Katy Townsend: Assistant Professor, Small Animal Surgery, Oregon State U., Corvallis, OR
Claire Underwood: Assistant Professor, Large Animal Imaging, U. Pennsylvania, New Bolton Center, Kennett Square, PA
Annika Krengel Weigdel: Veterinarian, Wilhelma Zoo Stuttgart, Germany

2005
Krystal Allen-Worthington: Veterinary Medical Officer, National Institute of Mental Health, Washington, DC
Melanie Ammersbach: Veterinary Clinical Pathologist, Antech Diagnostics, Elora, Ontario, CA
Hannah Bender: Veterinary Pathologist, Taronga Conservation Society, Sydney, AU
Hilarie Jerauld Campbell: Masters candidate, Medical Research, Uppsala U., Sweden
Hille Fieten: Director, Center for Companion Animal Genetics, U. Utrecht, NL
Amanda Kreuder: Assistant Professor, Veterinary Diagnostics, Iowa State U., Ames, IA
Rebecca Mitchell: Visiting Assistant Professor, Bioinformatics, Emory U., Atlanta, GA
Emily Orchard-Mills: Service Specialist, Federal Department of Agriculture, Fisheries and Food, Canberra, AU
Trisha Oura: Assistant Professor, Diagnostic Imaging, Tufts U., Boston, MA
Bo Raphael: Biosecurity Officer, Federal Department of Agriculture, Fisheries and Food, Canberra, AU
Johanna Rigas: Clinical Pathologist, Animal Reference Laboratory, Salt Lake City, UT
Kanika McAlpine Singleton: Service Specialist, KLS Interactive Marketing Service, Philadelphia, PA
Emily Nestor Trackenbrod: PhD candidate, Immunology, U. Minnesota, St. Paul, MN
Catherine Trickett-Tisdale: Lecturer, Veterinary Science, Myerscough College, Bilsborrow, UK
Nina Weishaupt: Senior Scientist, Head In Vivo Pharmacology, Xnon Pharmaceuticals, Burnaby, British Columbia, CA

2006
Stephanie Brien: PhD candidate, Genetics, U. Edinburgh, UK
Onno Burfeind: Veterinary Service Specialist, Futtercamp Education and Research Center, Kiel, Germany
Bronwyn Clayton: Senior Policy Analyst, State Department of Jobs Precinct and Regions, Melbourne, AU
Alexander Corbishley: Lecturer, Farm Animal Practice, U. Edinburgh, UK
Janny deGrauw: Academic Clinician, U. Utrecht, NL
Louise Sullivan Fitzgerald: Pathologist, Gribbles, Melbourne, AU
Eva-Maria Laabs-Poos: Government Veterinary Officer, Oldenburg, Germany
Richard Meeson: Senior Lecturer, Orthopedic Surgery, Royal Veterinary College, London, UK
Ashley Neary Hartley: Staff Clinician, Royal Veterinary College, London, UK
Tiffany Reed Lyle: Assistant Professor, Pathology, Purdue U. West Lafayette, IN
Joseph Neary: Senior Lecturer, Livestock Health, U. Liverpool, UK
William Sander: Assistant Professor, Preventive Medicine, U. Illinois, Urbana, IL
Anne Gordon Schneider: Postdoctoral Fellow, Population Medicine, Cornell U., Ithaca, NY
Gelja Maiwald Surma: Head, Business Development, Synlab.Vet, Berlin, Germany
Justine Shotton: Veterinary Services Manager, Maxwell Wildlife, Winchester, UK
2007  
Patrick Ayscue: Director, Government Programs, Metabiota, San Francisco, CA  
Sonja Bröer: Neuroscientist, Neurona Therapeutics, San Francisco, CA  
Rosemary Brungs: Registrar, Pediatric Endocrinology, Children's Hospital Sydney, AU  
Stephen Burr: Postdoctoral Fellow, Mitochondrial Biology Unit, Cambridge, UK  
Sarah Caddy: Clinical Research Fellow, MRC Laboratory of Molecular Biology, Cambridge, U., UK  
Elva Cha: Associate Director, Deciphera Pharmaceuticals, Waltham, MS  
Boran Choi: Postdoctoral Fellow: Neuroscience, Johns Hopkins U., Baltimore, MD  
Ludwig Groebler: Professional Education Manager, Johnson & Johnson, Erkrath, Germany  
Laura Grogan: Research Fellow, Wildlife Diseases, Griffith U., Brisbane, AU  
Kate Johnson: Senior Research Fellow, U. Hertfordshire, St. Albans, UK  
Kay Russo: Industrial Service Specialist, Land of Lakes Co., Fort Collins, CO  
Ryan Traslavina: Pathologist, Antech Diagnostics, Hunt Valley, MD  
Maria Volkmann: Scientific Associate, Epidemiology, Freie Universität Berlin, Germany  
Laura Gey: Postdoctoral Fellow, Pharmacology, U. Bonn, Germany  
Jenna Gettings: Postdoctoral Fellow, Population Health, U. Georgia, Athens, GA  
Laura Gey: Postdoctoral Fellow, Pharmacology, U. Bonn, Germany  
Shuhei Ito: Technical Specialist, Pfizer Inc. Tokyo, Japan  
Greta Schmoyer: USDA, APHIS, Inspector, Knoxville, TN  
Katrina Stewart: Resident, Medicine, Purdue U. West Lafayette, IN  
Jakob Trimpert: Postdoctoral Fellow, Virology, Freie Universität Berlin, Germany  
Robert Turner: Resident, Radiology, U. Melbourne, AU  
Sarah Van Rijn: Staff Surgeon, U. Utrecht, NL  
Jolanda Verhoef: Pathologist, Charles River Laboratories, Senneville, Qubec, CA  
Hans Winkler: Postdoctoral Fellow, Nutritional Science, Eidgenossische Technische Hochschule, Zurich, Switzerland

2008  
Alisa Guen Bradbury: Innovation Consultant, Innovia Technology, Cambridge, UK  
Floryne Buishand: Lecturer, Small Animal Surgery, U. Edinburgh, UK  
Elizabeth Slack Davenport: Patent Officer, J.A. Kemp, Oxford, UK  
Nancy Erickson: Animal Welfare Officer, Freie Universität Berlin, Germany  
Jenna Gettings: Postdoctoral Fellow, Population Health, U. Georgia, Athens, GA  
Laura Gey: Postdoctoral Fellow, Pharmacology, U. Bonn, Germany  
Sonja Heinrich: Officer, Boston Consulting Group, Berlin, Germany  
Shuhei Ito: Technical Specialist, Pfizer Inc. Tokyo, Japan  
Greta Schmoyer: USDA, APHIS, Inspector, Knoxville, TN  
Katrina Stewart: Resident, Medicine, Purdue U. West Lafayette, IN  
Jakob Trimpert: Postdoctoral Fellow, Virology, Freie Universität Berlin, Germany  
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Jolanda Verhoef: Pathologist, Charles River Laboratories, Senneville, Qubec, CA  
Hans Winkler: Postdoctoral Fellow, Nutritional Science, Eidgenossische Technische Hochschule, Zurich, Switzerland

2009  
Rachel Acciacca: Resident, Surgery, U.S. Army Jacksonville, NC  
Hannes Bergmann: Livestock Compliance Inspector, Western Australia Department of Agriculture, Moora, AU  
Jennifer Bernard: Pathologist, IDEXX Laboratory, Memphis, TN  
Lucie Chevallier: Director, Molecular Genetics, U. Alford, Paris, France  
Johanna Dupps: Epidemiologist, State Department of Agriculture and Food, Perth, AU  
Lisa Holz: Postdoctoral Fellow, Virology, Tubingen, Germany  
Jennifer Irving: Resident, Pathology, Royal Veterinary College, London, UK  
Sally Ann Iverson: Preventive Medicine Fellow, Centers for Disease Control and Prevention, Atlanta, GA  
Joshua Leach: PhD. Candidate, Oncology, Beatson Institute for Cancer Research, Glasgow, UK  
Katherine McKelvey: Academic Clinician, North Carolina State U., Raleigh, NC  
Joanna Mieczko: Veterinary Research Scientist, Lovelace Biomedical Unit, Albuquerque, NM  
Dallas New: Staff Scientist, Epidemiology, Public Health Agency of Canada, Saskatoon, CA  
Annelies Nijdam: Postdoctoral Fellow, Epidemiology, Antoni van Leeuwenhoek, Amsterdam, NL  
Jennell Bigrigg Ramirez: Pathologist, Charles River Laboratories, Ashland, OH  
Kimberley Schiller: Senior Manager, Accenture, London, UK  
James Swann: PhD candidate, Pharmacology, Kennedy Institute, Oxford U., UK  
Heidi Vesterinen: Research Project Specialist, Public Health, U. Minnesota, St. Paul, MN

2010  
Mirjam Brackhan: Postdoctoral Fellow, Neuroscience, Oslo, U., Norway  
Heike Breuer: Study Director, Biomedical Research, GMBH, Wairod, Germany  
Brina Lopez Graham: PhD candidate, Equine Medicine, U. Georgia, Athens, GA  
Line Greve: PhD candidate, Equine Medicine, Royal Veterinary College, London, UK  
Sarah Hooper: Postdoctoral Fellow, Conservation Biology, U. Missouri, Columbia, MO  
Sanne Hugen: PhD candidate, Veterinary Medicine, U. Utrecht, NL  
Marie Killelber: Epidemiologist, Centers for Disease Control and Prevention, Atlanta, GA  
Anne Kimmerlein: Epidemiologist, VCA Inc. Davis, CA
Kathleen O’Hara: PhD candidate, Epidemiology, U. California, Davis, CA
Gertje Petersen: Postdoctoral Fellow, AbacusBio, Dunedin, NZ
Luise Steltzer Seeker: Postdoctoral Fellow, Cell Biology, U. Edinburgh, UK
Eliza Smith: Program Manager, Kyeema Foundation, Brisbane, AU
Daniel Woodburn: PhD candidate, Molecular Pathology, U. Illinois, Urbana, IL

2011 Angel Abuelo Sebio: Assistant Professor, Bovine Medicine, Michigan State U. East Lansing, MI
Hannah Atkins: Assistant Professor, Molecular Medicine, Pennsylvania State College of Medicine, Hershey, PA
Jessica Brown Beck: PhD candidate, Cancer Biology, National Cancer Institute, Bethesda, MD
Timothy Chua: Business Manager, A Star, Agency for Science, Technology and Research, Singapore
Scott Dudis: Veterinarian, Walter Reed Institute of Research, Silver Springs, MD
Kristin Elfers: Lecturer, Veterinary Physiology, TIHO, Hannover, Germany
Ellen Hart: Veterinary Medical Officer, Food and Drug Administration, Washington, DC
Linda Huang: PhD candidate, Pathobiology, Cornell U., Ithaca, NY
Per Karlsson: Postdoctoral Fellow, Statistics, Virginia Commonwealth U., Richmond, VA
Marion Leiberich: Postdoctoral Fellow, Reproductive Biology, U. Pretoria, SA
Celine Mortier: PhD candidate, Rheumatology, U. Ghent, Belgium
Maureen O’Brien: Veterinary Pathologist, Charles River Laboratories, Frederick, MD
Viktoria Rungelrath: NIH Scientist, Microbiology, Rocky Mountain Laboratories, Hamilton, MT
Michelle White: PhD candidate, Genetics, Cornell U., Ithaca, NY
Sarah Wood: PhD candidate, Wildlife Pathology, Western College of Veterinary Medicine, U. Saskatchewan, CA
Erasmus zu Ermgassen: Postdoctoral Fellow, Production Animal Science, Catholic U., Leuven, Belgium

2012 Luca Bertzbach: Postdoctoral Fellow, Virology, Freie Universität, Berlin, Germany
Deborah Burnett: PhD Candidate, Immunology, Garvan Institute, Sydney, AU
Hanna Telama Castro: Postdoctoral Fellow, Microbiology, U. Helsinki, Finland
Anna Maria Gartner: PhD candidate, Wildlife Medicine, Gissen U., Germany
Anja Gemmer: PhD candidate, Neurobiology, Max Planck Institute for Brain Research, Frankfurt, Germany
Anna Goodroe: Clinical Veterinarian, U. Houston, TX
Hilary Hu: Resident, Neurology/Neurosurgery, Texas A & M, College Station, TX
Andrea Nies: Project Manager, Nutrition, TIHO, Hannover, Germany
Jane Park: Resident Radiology, Oklahoma State U., Stillwater, OK
Laura Schmertmann: Veterinary Compliance Officer, NSW Dept of Primary Industries, Sydney, AU
Lucas Smolders: Postdoctoral Fellow, Orthopedic Surgery, U. Zurich, Switzerland
Adam Werts: Veterinary Scientist, Lovelace Respiratory Research Institute, Baltimore, MD
Helena Wittgenstein: PhD candidate, Pathology, Charite Medical University, Berlin, Germany

2013 Casey Cazer: PhD candidate, Epidemiology, Cornell U., Ithaca, NY
Frances Chen: DVM/PhD candidate, Developmental Biology, Cornell U., Ithaca, NY
Iva Cvitas: PhD candidate Immunology, U. Bern, Switzerland
Angus Fisk: DPhil candidate, Neurology, Oxford U., UK
Lucy Hardwick: Lieutenant, UK Army Veterinary Corps
Nandita Kataria: Medical Student, U. Sydney, AU
Wilfred Leung: PhD candidate, Oncology, Cornell U., Ithaca, NY
Jenny Munhofen: U.S. Army Veterinary Corps, Clarkesville, TN
Aimée Heinz Neher: Sales Representative, Novartis Inc., Sellrain, Austria
Tessa Procter: Clinical Lecturer, Edinburgh U., UK
Hendrik Sake: PhD candidate, Genetics, Friedrich-Loeffler Institute, Reinberg, Germany
Svenja Wiechert: PhD candidate, Virology, Medical School, Hannover, Germany

2014 Callum Bennie: Resident, Dermatology, Colorado State U., Fort Collins, CO
Alicia Braxton: PhD candidate, Cell and Molecular Medicine, Johns Hopkins U., Baltimore, MD
Amy DiDomenico: Resident Clinical Pathology, North Carolina State U., Raleigh, NC
Laura Eling: PhD candidate, Neurology, European Synchrotron Facility, Grenoble, France
Rachael Labitt: Resident, Laboratory Animal Medicine, Cornell U., Ithaca, NY
Chelsea Landon: Resident, Laboratory Animal Medicine, Duke U., Durham, NC
Fabian Lean: PhD candidate, Virology, Australian Animal Health Laboratory, Geelong, AU
Emily Milodowski: PhD candidate, Oncology, Bristol U., UK
Isabel Ralle: PhD candidate, Cardiology, Medical School, Hannover, Germany
Susanne Spoerel: Anesthesiologist, Justus-Liebig Giessen U., Germany
Marit van den Berg: Resident, Small Animal Medicine, Ghent U., Belgium
Vanessa Wallace: Resident, Pathology, Virginia-Maryland Technical University, Blacksburg, VA
Lucy Watson: PhD candidate, Reproductive Biology,
Royal Veterinary College, London, UK

2015
Souheyla Benfrid: PhD candidate, Virology, Pasteur Institute, Paris, France
Elise Den Boer: PhD candidate, Epidemiology, U. Utrecht, NL
Alexa Edmunson: Resident, Laboratory Animal Medicine U. Minnesota, St. Paul, MN
Simon Frueh: PhD candidate, Molecular Biology, Cornell University, Ithaca, NY
Crystal Gergye: Resident, Laboratory Animal Medicine, Emory U., Atlanta, GA
Elena Gräf: PhD candidate, Institute of Virology, Hannover, Germany
Yun Ha Hur: PhD candidate, Molecular Medicine, Cornell University, Ithaca, NY
Franziska Kaiser: PhD candidate, Infectious Diseases, TüHo, Hannover, Germany
Jocelyn Kessels: Consultant, Boston Consulting Group, Sydney, AU
Peter Kilfeather: DPhil candidate, Physiology, Anatomy and Genetics, Oxford U., UK
Julia Sehl: PhD candidate, Virology, Friedrich-Loeffler Institute, Reinberg, Germany
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Katriina Willgert: PhD candidate, Epidemiology, Cambridge U., UK

2016
Carolyn Bender: Research Veterinarian, Crown Bioscience Inc., New Iberia, LA
Georg Beythien: PhD candidate, Virology, Free Universität, Berlin, Germany
Ariana Boltax: Postdoctoral Associate: Education, Cornell U., Ithaca, NY
Elizabeth Goldsmith: Resident, Pathology, Washington State U., WA
Svenja Maier: Intern, Equine Medicine, U. Vienna, Austria
Christopher Shiprack: Intern, Clinical Pathology, Cornell University, New York, NY
Michelle Teunissen: PhD candidate, Clinical Science, U. Utrecht, NL
Brittany Zumbo: Intern, Small Animal Medicine, Cornell University, Ithaca, NY

2017
Anna Baker: Intern, Ocean State Equine Associates, North Scituate, RI
Jon Lou: Intern, Small Animal Medicine, Angel Animal Medical Center, New York, NY
Katherine Neal: Intern, Small Animal Medicine and Surgery, Blue Pearl Veterinary Specialists, Atlanta, GA
Albert Thomas: Intern, Animal Referral Hospital, Brisbane, AU
Kelly Zimmerman: Intern, Small Animal Medicine, Louisiana State U., Baton Rouge, LA

2018
Valeria Bergomi: MPhil candidate, Pathology, U. Cambridge, UK
Michelle Reichert: Resident, Laboratory Animal Medicine, U. Minnesota, Saint Paul, MN
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