

Science@CornellVet

A science blog straight from the students and trainees of Cornell Vet

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Research During Vet School: Advice From Students Who've Been There

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Cornell University College of Veterinary Medicine doesn't just train veterinary students to earn their DVM degrees – it also hosts many graduate pursuing Master's and PhD degrees in many different scientific fields. Veterinary students, too, have access to the researchers at the College, in the form of lecturers, advisors, and mentors.

For veterinary students who want to pursue research at Cornell, there is no shortage of avenues. Students can pursue informal research experiences, working on projects in the hospital, field, or laboratory. Cornell's Veterinary College also offers many formal research programs:

Cornell's [Veterinary Investigators Program \(VIP\)](#)

Cornell's [Leadership Program for Veterinary Students](#)

[Combined Degree Program \(DVM/PhD\)](#)

[Master of Public Health \(MPH\)](#)

...and more!

But where do you start? How do you find the right lab, the right project, and the time to balance research with vet school?

I sat down with a handful of vet students all involved in research, but with very different backgrounds and research experiences. What were their favorite parts about doing research? What challenges did they face along the way? And what advice do they have to share with veterinary students who are interested in getting involved?

Many paths, from brains to blood smears



Amber Harris, third-year veterinary student.

First, I spoke to Amber Harris. Harris is a third-year veterinary student, hoping to pursue a neurology residency and eventually work in a teaching hospital, educating students and seeing patients. Before her third year of vet school, Harris was approached by a neurology clinician and asked to look through past cases for similarities that could identify risk factors for disease.

Because her work is retrospective and doesn't require timed experiments or laboratory work, Harris's time is more flexible – and the clinicians she works with are always understanding if she needs to prioritize schoolwork. “My favorite thing about my research,” she says, “is becoming familiar with different diagnostic tests and how to interpret them, especially in light of the rest of the clinical picture of the animal.”

Kristina Ceres, a second-year vet student who just entered the [Combined DVM/PhD program](#) and will start her PhD in June, does a different kind of research – she develops epidemiological models for infectious diseases. The summer after her first year of vet school, Ceres worked in Dr.

Gröhn's lab through the Cornell [Leadership Program for Veterinary Students](#), and developed an individual-based model for disease transmission. "It was one of the most difficult things I have done, but I loved it." Research allowed Ceres to combine her varied interests, like computer science, modeling, and epidemiology.



Kristina Ceres, a combined DVM/PhD student

Did research ever take away from studying, self-care, or personal life? "I work best when I have a lot of interesting things on my plate," Ceres says. "I felt motivated to work hard on my research projects, which sometimes made studying difficult. I often felt stressed because I had obligations both to my research projects and to my own veterinary education. Did it compromise the quality of my veterinary education? Absolutely not. I may not have spent as much time studying as some of my classmates, but I was able to learn so much more than only what the veterinary curriculum has to offer! Participating in research is empowering for me, and contributes to my mental well-being. But do I have a lot of time for a vibrant social life? Not really."

While Ceres spent countless hours immersed in her research projects, always focused on applying to the dual-degree program, Stephanie Tarlowe took a different approach.

Tarlowe is a second-year veterinary student who participates in both observational and experimental clinical studies. For a few hours a week during the academic year, she gets paid to help with sample collection. During academic breaks, she spends more hours on research to conduct the bulk of her project sampling.

Tarlowe collects and analyzes individual blood, milk, and uterine samples from dairy cows, but she isn't

involved in the overall data analysis of the project. "I value the hands-on experience the most," she says. "Just being around large numbers of cattle for long periods of time trained my eye to spot normal vs. abnormal, and get more familiar with the daily workings of a farm." Tarlowe participated in the [Veterinary Investigators Program \(VIP\)](#) after her first year of vet school, and then stayed on as a paid assistant to work with several dairy and ambulatory clinicians. "I was able to gain so many skills that I will use down the line as a practicing clinician."

Megan Bernard is a third-year vet student who completed a year-long master's program in Dr. Jon Cheetham's lab, studying immunology and peripheral nerve injury through experimental work with lab mice. She received funding for her Master's through a student grant from New York State Stem Cell Science (NYSTEM).

Instead of doing research and taking vet school classes concurrently, Bernard completed her first three



Megan Bernard, third-year veterinary student

semesters of veterinary school, and then took a year off to pursue the Master's program full-time. Bernard believes her experiments would have been very difficult to do while taking classes. "There was lots of planning, preliminary studies, and some studies just had to be re-done... I thought that a year would be more than enough time to complete my project, but by the end, I realized how much more time I could have spent on it!"

Bernard's favorite part of research? Coming up with different experimental designs to answer scientific questions. "This is similar to what we learn to do in vet medicine – you have your tool bag of diagnostics and treatments, and you have to decide the best way to use them for each patient."

Bernard's Master's program also allowed her to step back and reflect. "I was in this full-time research setting deciding if this was a path I'd like to take with my career. And I was also evaluating my path as a veterinarian, talking to other vets and researchers, and deciding where I wanted to go with my DVM degree," she said. "It was just so refreshing to leave the craziness and the tunnel vision of school and figure out some life goals while working on something productive and different." But Bernard's year off also contributed to her least favorite part of her research experience – leaving her classmates. "It really pained me to see them all enter clinics when I still had to finish classes!"

An asset to veterinarians

Research complements a veterinary school education, providing the opportunity for students to apply classroom knowledge, problem-solving, and critical thinking to a clinical setting. Harris's clinical work gave her familiarity with diagnostic tests and taught her to pull together data to form a big picture. Cere's research showed her how to critically evaluate primary literature, to keep up to date with new and evolving treatment



Stephanie Tarlowe, second-year veterinary student

and emerging patterns of disease transmission. Tarlowe's research experience gave her an edge when asked to interpret blood smears and cytology in her classes, and her hands-on work has helped her better assess bovine patients. Bernard said, "the reading and studying I did for research solidified a lot of immunology concepts, and made classes in vet school easier. And my vet school education really helped me to bring good perspective to my research – I was able to ask broad questions, troubleshoot, and perform experimental surgeries better because of my prior education."

And for students who choose to do research during veterinary school, not only are clinicians understanding of time commitments and flexible in scheduling hours, they're also great sources of information, letters of recommendation, and possibly authorship on a paper. And Stephanie Tarlowe's favorite part of research – "It's great to be on a first-name basis with the ambulatory clinicians, since they will talk about unique cases and patients with you!"

Apply, speak up and reach out

So, how should a student get involved in research?

Megan Bernard highly recommended a one-year Master's program through NYSTEM or NIH grants. "This opportunity isn't advertised much for students, but vet students can take a whole year off from school just to do research and become a well-rounded, interdisciplinary student." Bernard and Ceres both recommended looking into the Dual Degree Program, a seven-year program that grants both DVM and PhD degrees. If you are not accepted at first, you can still apply during veterinary school – and if you are accepted, your vet school tuition is fully covered!

For students who want to do research concurrently with veterinary school classes – talk to clinicians and professors to find out about their ongoing research projects or to get recommendations about where to go next. Faculty enjoy mentoring students and are willing to work with you, so don't be afraid of reaching out. "The only way to get involved is to reach out and express a genuine interest and willingness to work," said Tarlowe.

As for when to start, definitely wait until after Block I – but Harris suggests getting started sometime during your first or second years, especially if you're looking to publish a paper. Part-time research during clinics might be doable, if you're on the data analysis or paper-writing part of your work, but don't forget to leave time for yourself! Bernard said, "You end up working 12 hours a day on clinical rotations. It's hard to research projects or run statistics or write papers with only a few hours to yourself during the day."

Think about your immediate and long-term goals, your areas of interest, and what sort of research experience would be the most beneficial to you. No two research paths are the same!

–by Isabel Jimenez, third-year veterinary student

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