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Photo by Sabina Louise Pierce



# Man on a Mission

*Phil Scott, GR'80, was recently appointed to the position of associate dean for research, a new role at the School of Veterinary Medicine. In addition to this appointment, Dr. Scott is a professor of microbiology and immunology and chairman of the Department of Pathobiology. Dr. Scott recently answered questions about his new role as well as research at Penn Vet.*

## Why is research important at Penn Vet?

Research is why we're here. Our scientific investigation expands our knowledge; it's at the core of what we do. Think of it this way: We're responsible for teaching students, but what do we teach them? Where does that knowledge come from? It comes from basic, translational and clinical research, and this research is critical to both the finest teaching and the best in clinical care. We don't want to be reading about what other Schools have created in new knowledge—we want to be doing it at Penn. It underpins our mission of teaching and healing.

## What is translational research?

We have a strong program of basic research, which we not only do well, but which we can sometimes translate into care for our patients. It's a linear process, beginning with the basics of scientific discovery and ultimately translating into treatment for many species. It is not always clear how fundamental knowledge will be translated into a clinical benefit. But sometimes we're lucky. For example, an on-going study at Penn Vet has evolved from basic research on lysosomal storage diseases to successful gene therapy in dogs and cats. Ultimately, it will have significant implications for humans afflicted with MPS disorders. While in that example, all that work has been a product of Penn Vet, knowledge can come from anywhere in science. For us, the key is to make sure that our basic science departments provide fundamental knowledge that has the potential to be translated by others into useful clinical treatments, and that our clinical departments have the strong translational and clinical research components necessary to take advantage of scientific advances made at Penn and elsewhere.

## What do you see as the future of research at Penn Vet?

The future is exciting. For example, one major ongoing initiative is stem cell biology. We already have a great track record here, because we have **Dr. Ralph Brinster**, who did pioneering work in the development of transgenic mice, as well as several other researchers devoted to similar research. The new Hill Pavilion will include stem cell research labs. Other initiatives include infectious disease and food safety, which impact millions of people around the world. We continue to study zoonotic diseases, which includes the West Nile virus and avian flu, as well as other bacterial, viral and parasitic diseases of animals and people. The veterinary community has a responsibility to public health

in these areas. This brings up an important point that is sometimes overlooked. Veterinary medicine has much to offer human medical science—for example, as part of our oncology studies, we know that the spontaneous tumors that occur in cats and dogs are very similar to the ones that occur in humans. This makes them excellent models for studying the disease in humans. Here the development of successful treatments has a double pay-off—treating animals and providing the foundation for treatments useful in human medicine. Similarly, work with genetic diseases common to animals and humans are often much easier to study in dogs and cats.

## What opportunities does research provide to students?

There are wonderful opportunities for students, from the Merck summer program to our combined VMD/PhD program. The focus on research at both the School and the University helps ensure students understand the importance of science to medicine. One thing that sets us apart from other schools and makes us attractive as a place to study for students is that we belong to a large biomedical research community, giving them an opportunity to participate in cutting-edge research in countless disciplines.

## Falsified research has been in the news recently—how can the public be sure that so-called breakthroughs are real?

To a large extent, science is self-correcting. When a claim is made, other scientists will first try to replicate it, and then build on it, in a process of repetition. This is how science as a field advances. So a researcher who falsifies work, particularly when it is of high visibility, will usually be caught by his or her peers.

## What is the future of funding for the sciences?

The National Institutes of Health and USDA funding will be flat or decrease in the next few years, which will impact the ability of Penn Vet, as well as other institutions, to make progress in expanding our fundamental knowledge of disease, and translating that into clinical treatments. This means that we will have to be more efficient with our resources across all departments, be alert to opportunities that we might not have noticed before and be strategic about what we choose to do. ▀

**bw** For more information about Dr. Scott, see our Web site at [www.vet.upenn.edu/bellwether](http://www.vet.upenn.edu/bellwether).