



## Black Dogs

**It's a safe bet** that Yale University geneticist Shirleen Roeder is the only one on her block with a backyard Zinger Winger—a giant slingshot for hurling dead ducks.

Possession of a Zinger Winger explains why Roeder generally keeps a couple of dead ducks in her refrigerator, and why she stacks frozen pheasants, pigeons, and ducks alongside the pizza in her freezer. The slingshot, the dead birds, and a canine agility course with hurdles, ramps, and tunnels are all accessories for a serious hobby: training Flat-Coated Retrievers.

This way of life originated in 1995, when Roeder's pet black Labrador was growing old. Roeder decided against replacing the "irreplaceable" Jenny with another Lab. Searching the Internet for a different breed, she discovered Flat-Coated Retrievers. They're handsome dogs, akin to Golden Retrievers, only black.

Flat-Coat owners tried to dissuade her. They warned that a Flat-Coat would be "in your face, all the time," recalls Roeder, an exuberant HHMI investigator who studies the genetics of yeast

meiosis. One owner allowed all eight of his dogs to greet her, their muddy paws on her pink dry-clean-only coat. Roeder didn't mind. But convincing a breeder that she could handle a Flat-Coat was "like being put through the Spanish Inquisition," she recalls.

The Illinois breeder who finally relented instructed Roeder: "Do something with this dog."

Mainly to save face with the breeder, Roeder took the dog, Toby, to agility classes. There, she heard about the arcane world of trials for obedience, agility, and hunting, but she had no intention of joining in. Eventually, she decided to take Toby to a trial, but just one. He excelled. Roeder's competitive drive kicked in.

At first, though, she chafed at sitting through all-day agility trials just to see Toby run two 60-second obstacle courses. Roeder remembers thinking: "This is not an efficient use of time!" She'd been a long-time "workaholic," she says, but for years she'd reassured herself: "I'll have time to get a life when this course is over, when this paper is accepted, when this grant is submitted. But the time never came." Now, making friends with fellow dog trainers, she stumbled upon an identity separate from that of scientist. She enjoyed "not

being anybody to them except Toby's owner." Work could wait. "It made me a happier person," she says.

Toby earned so many distinctions he was inducted into the Flat-Coated Retriever Society of America's Hall of Fame for 2005. He died of cancer a few weeks before the ceremony. At nine-and-a-half, he'd outlived the average Flat-Coat by a year and a half. The breed is prone to devastating cancers, partly because the gene pool is quite



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SHIRLEEN ROEDER



small—only 800 Flat-Coat puppies are registered annually in the United States. “So when you get something bad in there,” says Roeder, “you’re stuck with it.” She heads the cancer subcommittee for the Flat-Coated Retriever Society of America, raising money and gathering blood and tissue samples to help researchers find markers for the genes that make the breed vulnerable. Markers would allow breeders to avoid mating two carriers.

Roeder has two dogs now, Java and Keegan. One Saturday afternoon, the Zinger Winger flings a dead duck (left over from a hunt test) into the woods beside her house in Cheshire, north of New Haven. Keegan waits until he’s told to go then zips into the brush and speedily returns to Roeder’s side, mallard in mouth. Next, Roeder runs beside Java as she races through the agility course. Java flies over hurdles, up and down a teeter-totter, through a chute. And then, unaccountably, she stops short and gazes into the distance.

“She saw a butterfly!” Roeder calls out breathlessly, and she laughs.  
—Cathy Shufro



**WEB EXTRA:** Visit the *Bulletin* online to see photos of Shirleen Roeder and her dogs.

## A Wiki Whiz Kid

**When Andrew Hires was working** on his Ph.D. in 2006, he decided to check out Wikipedia, the popular online reference, and see what it had to say about green fluorescent protein (GFP). Hires was immersed in the stuff, working in the lab of GFP pioneer and HHMI investigator Roger Tsien at the University of California, San Diego.

What he found was disappointing. “There was very little on the seminal discoveries and who made them, and not much on a lot of the applications that have been developed in the last 10 years,” Hires recalls.

So he rolled up his sleeves, grabbed his mouse, and went to work.

Wikipedia’s 10 million or so articles are never finished—they’re updated yearly, monthly, even daily if warranted. Hires, now a post-doctoral researcher at Janelia Farm Research Campus, has revised the article on GFP, a substance made by jellyfish that’s become a workhorse of biological research, as many as 30 times.

A “wiki”—according to Wikipedia—is “a collection of Web pages designed to enable anyone who accesses it to contribute or modify content.” When Hires first looked at it, the GFP article was a very basic introduction to the protein’s chemical makeup and a few of its scientific applications. (Interestingly, it did contain a brief mention of Alba, a fluorescent bunny created in 2000 with GFP genes commissioned by Brazilian Eduardo Kac, who calls himself a “transgenic artist.”)

Hires says he has contributed about half the content of the current version: “All of the historical background, almost all of the GFP mutations, how they affect the structure and color, and other molecular variations, some of which are used to make biosensors to detect pH, for example.” He wasn’t the first, however, to update Wikipedia on Tsien’s 2008 Nobel Prize in Chemistry. Within moments of the October 8 announcement, a contributor from Norway had posted the news.

Hires, who has been at Janelia for about a year in the lab of group leader Loren Looger, says he began contributing to Wikipedia in part “to procrastinate while working on my thesis.” Since then he’s launched a science blog (Brain Windows) and has also worked on a few other science and nonscience Wikipedia articles, including “Techno-DJ music in the 1990s.” Although there’s no pay, Hires says being a Wikipedia contributor “is fun. You get to be an authoritative figure on something that’s pretty important.” —Richard Saltus

**FOR MORE INFORMATION:** To see Hires’ contributions to the Wikipedia GFP site, visit [http://en.wikipedia.org/wiki/Green\\_fluorescent\\_protein](http://en.wikipedia.org/wiki/Green_fluorescent_protein).

