Summertime, And the Living Is in a Lab

By Ian Shapira
Washington Post Staff Writer
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Until recently, Ashley Groth, 16, a junior at Brentsville District High School, thought she was going to spend her summer trekking across the country visiting colleges and playing video games with friends.

Now her plans have changed to something a bit more productive: researching treatments for Alzheimer's disease.

Groth is one of five Prince William County high school students who were selected out of more than 100 teenage and college-level applicants to George Mason University's Aspiring Scientists Summer Internship Program at its Prince William campus. Twenty-three students in the unpaid internship will work alongside the university's scientists on issues such as antimicrobial drug design, developmental neurobiology, nanotechnology, biodefense and environmental science.

The program, begun in 2007, is an example of the kind of partnership that many educators view as critical in the preparation of high school students for college. Stephanie Lape, a biology teacher at Brentsville, said the internship helps bridge high school and college, a strategy that provides high school students with a curriculum less about standardized tests and more about real-world problem-solving.

"This is the beginning of a partnership that needs to happen between secondary science and university science departments because there's virtually no dialogue there," Lape said. "It's important because there's this huge disconnect between learning science at [our] level and how science is actually done. They're almost like two separate things."

Groth had no idea about the program until Lape informed the class about it days before the application deadline. The decision, Groth recalled, was a no-brainer. She loves science because it explains life.


George Mason's program began three years ago, modeled on a program at the National Institutes of Health, said Amy VanMeter, the director of the Aspiring Scientists internship. It lasts from June 22 to Aug. 17 and is funded partly by the county government and area science and technology companies. The other Prince William high school students are: Trish Ike, a sophomore at Stonewall Jackson; David Derby, a...
junior, and Sarah Neale, a senior, at Osbourn Park; and Kiran Toor, a junior at C.D. Hylton, according to the university.

"They'll be doing the same work we're doing. It really sets students apart who are applying to college or medical school," VanMeter said. "One student who was in the 2007 program started at the Massachusetts Institute of Technology this year."

Groth will specialize in drug discovery and looking at fungal or natural products to treat Alzheimer's, which debilitates memory.

Many students have ended up publishing research in scientific journals, a major feat and sign of prestige, especially for younger people.

Groth is well qualified, if only because her drive is a combination of earnest perseverance and nagging. Lape recalls a story from the beginning of the academic year: Groth wanted to take her advanced Cambridge biology class, but Lape noted that Groth had not taken the prerequisite chemistry course. "She came to me and said, 'I really, really want to take this now, so we let her, and she's taking the classes concurrently," Lape said. "That level of personal initiative and self-advocacy is a rare quality among adolescents."

When Groth is not immersed in the scientific world, she keeps the other half of her brain -- the artistic side -- busy. She likes photography and works on the school's literary magazine. She also has a political bent: As a lesbian, she is a member of the school's gay-straight alliance club. Outside of school, she keeps a cashier's job at Target.

After she graduates in another year, she hopes to attend Virginia Commonwealth University or Rochester Institute of Technology in New York. "They have a good bioinformatics program," she said matter-of-factly.

And what happens if she finds a cure for Alzheimer's during her summer internship? "I mean," she said, "I'd like to get into a college without having to pay much. That would be nice."
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