

## Rural Students Soar with ‘Aspirnaut’ Science Programs

By Amy F. Reiter



Vanderbilt University’s 2012 Aspirnaut Summer Research high school, undergraduate and graduate student interns—many funded through NIH grants—stand with Aspirnaut staff.

**Photo:** Anne Raynor

Brilliant minds can come from hard-to-reach places. That’s the thinking behind Aspirnaut, an NIDDK-supported program that encourages students from rural areas to learn about STEM fields—science, technology, engineering and math—in the hopes of sparking careers.

It worked for Cody Stothers. The Vanderbilt University junior began his Aspirnaut ([www.aspirnaut.org](http://www.aspirnaut.org)) experience as a high school summer researcher at Vanderbilt. After his summer, he went home to Sheridan, Ark., where he served as a conduit between Aspirnaut and local middle and high schoolers. Stothers helped conduct science lab classes between Vanderbilt professors and rural students and teachers via videoconference and supported activities on a “Magic School Bus,” where academically gifted students were given computers and Internet access to do enrichment activities during their sometimes hour-and-a-half rides to and from school—just two facets of the Aspirnaut program.

“Prior to the Aspirnaut program, prior to college, I was not planning to be a scientist. [Both] helped me solidify in my mind that it would be a rewarding career for me,” Stothers said.

The program, begun by Dr. Billy Hudson—himself a product of a rural upbringing and now the Elliot V. Newman professor of medicine, pathology and biochemistry at Vanderbilt—is partly supported by NIDDK grants. The funding

supports high school and college summer research experiences for students from rural areas or otherwise underrepresented groups.

In the program, Hudson said, students are exposed to scientists—including many from rural or disadvantaged backgrounds—and expected to learn and contribute. “When they return [to their community], they can dream and see the possibility that this way of life can include them,” Hudson said. “We’re shining the light out there, showing them a pathway to success.”

NIDDK originally began supporting the initiative in 2009 when Hudson successfully applied for an ARRA supplement through NIDDK to support the summer program for high schoolers and undergraduates. Hudson and his colleagues have been able to leverage this stimulus to a successful NIDDK AREA grant—a grant for undergraduate or underserved institutions—to Tennessee State University and an NIDDK education grant to Vanderbilt. Other students have been supported by the NIDDK Short-Term Education Program for Underrepresented Persons. “NIDDK is front and center in helping us [develop] this model,” Hudson said.

In addition, this year American Indian high school summer interns were supported in part by a Native American Research Centers for Health grant from NIH and the Indian Health Service.

Dr. Tracy Rankin, NIDDK career development and training program director of kidney and urologic diseases, said the Aspirnaut program fits an immediate need for “more undergraduates choosing to pursue basic research in our mission areas, including nephrology. There has been a dearth of interest in nephrology, so we, in conversation with the American Society of Nephrology, have tried to brainstorm how to recruit more individuals to this area. The consensus is that the earlier we target, the better.”

Several hundred students have taken part in some element of Aspirnaut, with many more to come. Aspirnaut co-founder and Vanderbilt assistant vice chancellor for health affairs Dr. Julie Hudson—also a pediatric anesthesiologist married to Dr. Billy Hudson—points to the numbers for results of the program’s success.

“At least 1 in 2 students state that the Aspirnaut program has impacted...their course choices and career goals,” she wrote in an email. Of the students who participated in high school summer internships, all but one who’ve since graduated have gone on to college and 25 of 27 of them have chosen STEM-related studies.

Stothers is among them. Three years after his first Aspirnaut experience, he has now been accepted early to Vanderbilt’s medical school and gives much credit to the program for his success. “I don’t know how I would have figured out any of this stuff otherwise,” he said. Programs like Aspirnaut “may even be essential to these small communities.”