



Alert:

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**YES
Competition
Renewed
through 2010**

The Robert Wood Johnson Foundation has awarded a \$5.3 million grant to the College Board for the continuation of the YES Competition.

**2006-07
YES Competition
for Students**

**Online submission
deadline**
February 1, 2007
by 5:00 pm ET

Centers for Disease Control Welcomes YES Competition First-Place Winners

Natalia Nazarewicz and Aman Prasad were thrilled when they learned about an added bonus this year for the 2005-06 YES National First-Place Winners. In August, they spent the day at the Centers for Disease Control and Prevention (CDC) in Atlanta presenting their winning research papers and discussing a range of topics with CDC officials including public health problems, their research interests, and future academic and career plans.

Sponsored by the CDC and the YES Competition, Aman and Natalia had a very full but exciting schedule. They began their day with a tour of the CDC museum, where they viewed the Global Symphony, an exhibit describing the CDC's contributions to the elimination of polio, the battle to stem the rise of obesity, and the eradication

of Legionnaire's disease. In fact, they met with Dr. Steve Thacker, Director of the Office of Workforce and Career Development. Dr. Thacker, a physician and researcher, was part of the original team that identified the cause of Legionnaire's disease. After meeting with the students, he said, "I was impressed by the quality of the work produced by the scholars. Beyond that I was impressed by their honesty and by the enthusiasm they demonstrated when discussing their research."

More than 50 CDC staff members heard Natalia deliver a report entitled "Deliberate Self-Harm Among Adolescents: Prevalence, Risk Factors, and Treatment Options" and Aman present his research entitled "Physical Activity and Mood in Adolescents." Peter Hunt, Deputy Branch Chief of the Research Application Branch of the Division of Adolescent and School Health, attended the presentations. "Natalia and Aman exemplify the mind and heart of the public
Continued on last page.



Natalia Nazarewicz making her presentation to the CDC in Atlanta.



2005-06 First-Place Winners Natalia Nazarewicz and Aman Prasad with Nisha Harinath of the College Board



Young
Epidemiology
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In Hannibal's Footsteps

A 2004-2005 YES Competition winner finds her passion for health research leads to unexpected places

Winning a YES scholarship is a peak experience, but so is the view from 10,000 feet above sea level in the Alps. That's where Andreea Seicean, a 2004-05 YES scholar, who is now a pre-med and public health student at Case Western Reserve University, found herself last summer, hiking rugged mountain passes with Stanford University archeologist Patrick Hunt and a student research team.

This time Andreea's research focused not on teen sleeping patterns and obesity—the subject of her first-place YES project when she was a high-school senior—but on an ancient unsolved mystery: What killed thousands of Hannibal's troops in 219 B.C., during the military leader's famous march with 40 elephants across the Alps toward Rome? All that's known for sure, Andreea says, is that Hannibal started the campaign with 50,000 men—only half of whom survived.

"No one knows why so many men died over the 16-day march, although some deaths may be attributed to attacks from Gaul tribes, falls, exhaustion and cold," says Andreea. "Our hypothesis was that such a large number of forces may have succumbed to epidemics or widely spread diseases among the troops."

Andreea became interested in paleoarcheology—a new area of science that involves using DNA testing on ancient human remains—when she met Professor Hunt at a student conference held at Stanford University. "Professor Hunt was very interested in my YES research," she says. "He takes students to the Alps every year, and he invited me along. I've always been fascinated by history as well as medicine, so the chance to combine my passions was fantastic."

To prepare for the trip, Andreea studied epidemics and plagues during the Second Punic War and became familiar with recent discoveries made via ancient microbial DNA

research. In the mid-1980s, she points out, a subway excavation in Athens uncovered hundreds of corpses buried after a plague in 430 B.C. killed one third of the population. DNA testing subsequently proved that the plague was typhoid fever.

In the Alps, Andreea focused on topographical research, hiking five major mountain passes that were likely contenders for the path Hannibal traversed with his forces. Based on historical descriptions of the terrain, the team became convinced that Clapier pass was Hannibal's route. They are now making plans to explore the peak where Hannibal and his men might have camped—this time looking for microbial evidence that could be genetically tested. They have requested permission from the Italian and French governments to excavate at the top of Clapier pass next summer.

"I've gained a much better understanding of the terrain and conditions faced by Hannibal's mercenary army and the potential for disease and mortality," Andreea says. "There is nothing like actually being there."

Andreea's YES scholarship played a big role in making her trip possible, she says. "I never would have been invited to the conference in the first place without the YES award. YES encouraged me to continue my research and led to this life-changing experience. I am now absolutely sure I want to pursue an M.D./Ph.D. degree in epidemiology or health service research. This has been one of the best experiences of my life."



Digging for answers: The archaeological team

YES



YES Alumni Corner Where are They Now?

2003-04

Amanda Anjum, Jamaica, NY, an environmental studies and anthropology double-major at Adelphi University in New York, is working with some of her peers to study bones of patients from thousands of years ago to uncover abnormalities or evidence of disease and warfare.

Zarabeth Golden, Lighthouse Point, FL, a junior at the University of Florida, intends to begin a project on traumatic brain injury this fall.

Robert Levine, Lincolnshire, IL, a junior at Middlebury College majoring in molecular biology and biochemistry, hopes to begin his honors thesis on carbon reduction technologies for coal power plants and tie in the benefits of reducing pollution on public health.

Yun-En Liu, East Amherst, NY, a sophomore majoring in physics at Princeton, spent the summer working at Webb-Waring Institute attempting to identify the genetic composition of mice resistant to lung damage at high oxygen levels.

Rachel Meislin, New York, NY, a sophomore at the University of Pennsylvania, spent her summer as an intern at the Center for Immigrant Health at New York University.

Stephanie Mok, Bridgewater, NJ, a molecular and cellular biology major at Harvard, is conducting research at the Harvard School of Public Health involving tuberculosis transmission and computer modeling of tuberculosis viral rates of mutation.

Kelly Moltzen, Harriman, NY, a junior nutritional sciences and dietetics major at the University of Delaware, is working with one of her professors on a project in the emerging field of nutrigenomics.



Team breaks for a group photo in the Alps.

2004-05

Molly Burges, Gainesville, FL, a junior at the New College of Florida, will be interning next summer with the head of the Pulmonary and Critical Care division at Shands HealthCare.

Andrew Brown, Kent, WA, a senior at the University of Washington, has been engaged in psychoacoustics research, studying binaural adaptation and other psychoacoustic effects.

Sarah DeVos, Allendale, MI, a sophomore biology and neuroscience major at Central Michigan University, is researching the genetic cause of kidney cancer.

Ershela Duresi, Baton Rouge, LA, a freshman at Yale, furthered her YES research on "Using Network Topologies Against Bioterrorist Attacks" by using computer modeling of networks to manage emergency situations.

Casidhe Horan, Richmond, VA, a sophomore at Washington and Lee University, spent her summer at Community Health Solutions, where she did literature reviews in public health. She is working at Washington and Lee to build the Community Academic Research Effort with a grant received from Princeton University.

Parijata Mackey, Miami, FL, a biology and computer science major at the University of Chicago, spent the summer working in bio-defense for the Department of Homeland Security at Lawrence Livermore National Labs.

Malini Reddy, Athens, GA, who is studying biology (pre-med) at the University of Miami, is involved in a Diabetes Taskforce working on the risks and prevention of diabetes.

Rita Rein, Hot Springs, AR, a sophomore biology major at Hendrix College, has extended her YES project, "Staphylococcus Aureus and Smoking," to include antibiotic resistance.

Di Sun, Boyds, MD, a sophomore at Duke University, spent the summer interning at the National Institutes of Health.

2005-06

Christina Badal, Gulfstream Road, FL, a high school senior at Saint Andrew's School, spent her summer working with a research group at the Mailman School of Public Health at Columbia University, where her research focused on violence in the Washington Heights area of Manhattan and its effect on physical activity.

Erica Berck, Roslyn, NY, a senior at Roslyn High School, is beginning research in cognitive neuroscience, testing if somatoception or interoception affects emotional experience.

Emily Lefkowitz, Suffern, NY, a freshman at Cornell majoring in biology and society, policy analysis, and management with a concentration in health, has been accepted into the Cornell Presidential Research Scholars Program, where she plans to continue research in the behavioral and social sciences.

Opal Lynch, Brooklyn, NY, a freshman at the City University of New York, is working on a study involving college students and the correlation between aggression and childhood adversity.

Ryan Morgan, Vero Beach, FL, a senior at Phillips Exeter Academy, is investigating the effects of drug and alcohol use and sexual activity in freshman dorms in a boarding school environment.

Jasper Sneff Nanni, Philadelphia, PA, a senior at Germantown Friends School, spent his summer working at the Pennsylvania Center for Autism and Developmental Disorders Research and Epidemiology (CADDRE).

Jyotsna Somaraju, Peoria, IL, a freshman pre-med biology major at Loyola University in Chicago, spent the summer at a local hospital in the internal medicine research department assisting in a study on patient readmissions.

Maya Wolpert, Cleveland Heights, OH, a freshman at Stanford, plans to study medicine and is working to get her YES research "Atypical Visual Behaviors as Early Indicators of Autism in Children" published.

Past Winner Profiles

Centers for Disease Control Welcomes YES Competition First-Place Winners

Continued from first page.

health practice," he said. "Through scientific investigation and analysis, they show how understanding the causes of health problems can contribute to solutions and help improve the lives of real people. If each pursues a career in public health, I am confident they will have a personal and positive impact on our nation's future health."

The CDC trip is just one of many stops along the academic and career pathways of these YES National Winners. Aman, who attends Cornell University, plans to study anthropology with an emphasis on biology. Regarding the future of his research, he said, "I've been brainstorming ways to use the project's results to improve school curricula and the local juvenile justice program." Natalia, who is studying international relations and development at Brown University, felt the CDC experience changed the way epidemiology fits her future plans. "Epidemiology affects everybody—none of us wants to be at risk for disease. Infectious diseases in developing nations, however, can seriously cripple communities and economies and affect more than just the infected members. AIDS is a major factor in keeping some countries in poverty, and since I want to go into international relations, epidemiology will be a more important field than I once realized."

The YES Competition wishes to acknowledge and thank Dr. Denise Koo, Dr. Ralph Cordell, and the CDC for making this opportunity available to the YES Scholars.

The College Board
11911 Freedom Drive, Suite 300
Reston, VA 20190

www.collegeboard.com/yes
yes@collegeboard.com



"YES was great for me because I was able to meet other talented, bright individuals who had the same interests in public health as I did."

—Katherine Dillon

Katherine Dillon

Katherine Dillon earned a \$35,000 YES scholarship in 2003-04, using it to enroll at Washington University in St. Louis, where she is a junior majoring in anthropology and biology.

Since her YES experience, Katherine has wasted no time in pursuing work in public health. Last summer, she worked at the University of Pennsylvania's Center for Clinical Epidemiology and Biostatistics on two projects: one evaluating ways to minimize disparities in the outcomes of economically underprivileged patients diagnosed with hypertension, and the other assessing whether financial incentives could be used effectively in the workplace to help employees of large companies quit smoking.

This summer, she worked on a Navajo reservation in Shiprock, New Mexico, where she conducted a vaccination study at an Indian Health Services hospital.

"Ideally, I would like to enter an M.D./M.P.H. program," Katherine says. "My goal is to care for patients but also conduct clinical research. I think the two complement each other, and combining them will keep things interesting and give me more flexibility in my career."

The YES Competition was a pivotal time for Katherine. "YES was great for me because I was able to meet other talented, bright individuals who had the same interests in public health as I did," she says. "The competition made me realize how important and broad a field public health is. The speakers were amazing and really got us fired up."



"It introduced me to a field of science I never knew existed."

—Allison Roggenburg

Allison Roggenburg

When the YES staff finally caught up with Allison Roggenburg, a 2004-05 YES National Finalist, we found the very busy sophomore at the University of Iowa, where she is majoring in microbiology with a minor in communication studies. Her research project entitled "The Study of Acne in a Suburban Midwest School" earned her a \$15,000 YES college scholarship.

Even though Allison is just a sophomore, she is setting her sights on graduate school at the College of Public Health, where she plans to major in epidemiology or pathology. Allison said

she hopes to "research outbreaks of illnesses in populations, learn about emerging public health issues, and inform the public about ways to prevent illness and the importance of public health."

As a YES alumna, Allison offers the following advice to future YES applicants. "Be creative. There are plenty of interesting topics if you look deeply into your everyday life. Even though you might not think twice about something that is common, when you conduct your own research and investigation, you might find some interesting results."

