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SCIENCE SUPERSTARS FROM TEXAS AND CALIFORNIA HONORED FOR RESEARCH ON OCEANS AND BREAST CANCER IN NATION'S PREMIER HIGH SCHOOL SCIENCE COMPETITION

Siemens Competition Regional Winners Announced at Caltech; Will Compete for \$100,000 at National Finals

Ayon Sen of Austin, Texas, Wins Top Individual Prize;
Sarah Waliany and Shelina Kurwa of Arcadia, California, Win Top Team Prize

PASADENA, CA, November 10, 2007 — Research on the earth's oceans and breast cancer won top honors tonight for Ayon Sen and the team of Sarah Waliany and Shelina Kurwa in the Region 1 Finals of the 2007-08 Siemens Competition in Math, Science & Technology, the nation's premier high school science competition.

The Siemens Competition, a signature program of the Siemens Foundation, is administered by the College Board. Tonight's winners will receive thousands of dollars in college scholarships and be invited to compete at the National Finals in New York City, where the winners of six regional competitions across the United States will vie for scholarships ranging from \$10,000 to the top prize of \$100,000.

"These students have earned a place of honor among the nation's best and brightest," said Thomas McCausland, Chairman of the Siemens Foundation. "We applaud their achievement and look forward to welcoming them to the national event."

The students presented their research this weekend to a panel of judges from the California Institute of Technology (Caltech), host of the Region 1 Finals.

Individual Winner

Mr. Ayon Sen, a senior at Westwood High School in Austin, Texas, won the individual category and a \$3,000 college scholarship for exciting new research on the balance of energy in

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the earth's oceans. His project, *Dissipation of Geostrophic Oceanic Flows by Quadratic Bottom Boundary Layer Drag*, has important implications for understanding the global climate system.

“To understand the earth's climate you need to understand the earth's oceans,” said Dave Stevenson, George van Osdol Professor of Planetary Sciences at Caltech, a competition judge. “Mr. Sen calculated the amount of energy lost through friction at the bottom of the ocean – the same kind of drag you get when air flows past an automobile – and found that there is a substantial amount of energy being lost. This has important implications for our understanding of large scale circulation of the oceans and of the climate as a whole.”

Mr. Sen comes from a family of scientists: his father is a professor of geophysics and his mother is a computer scientist. An accomplished pianist and violinist, Mr. Sen won first place in both the 2006 Debose National Piano Competition solo division and 2007 US International Duo Piano Competition. He speaks Bengali and Spanish fluently and enjoys modernist/surrealist fiction. Mr. Sen plans to study mathematics or physics and hopes to become a professor of mathematics. He spent an estimated 960 hours working on his project.

Mr. Sen's mentors on the project were Dr. Brian K. Arbic, Research Associate, and Dr. Robert B. Scott, Research Scientist, Jackson School of Geosciences, University of Texas.

Team Winner

Cousins Sarah Waliany, a junior at Flintridge Preparatory School in La Cañada Flintridge, California, and Shelina Kurwa, a senior at Westridge School for Girls in Pasadena, California, won the team category and will share a \$6,000 scholarship for bioengineering research on breast cancer entitled, *Transformation of Herceptin (Trastuzumab) Sensitive SKBR3 Breast Tumor Cells into Herceptin Resistant Cells by Transfection with t-Darpp DNA*.

“This team's research has the potential to provide health benefits to a large portion of the population,” said judge Sarkis Mazmanian, Assistant Professor of Biology at Caltech. “They discovered that when a certain protein is overexpressed, tumor cells treated with a common cancer-fighting drug actually grow faster than without the therapy. Essentially, a drug that was a cancer killer becomes a tumor enhancer. Their research is novel and revolutionary because it could potentially help prevent women from having adverse affects from this cancer therapy. This is publishable, graduate level work.”

Ms. Waliany and Ms. Kurwa were inspired to pursue their research when the mothers of several friends were diagnosed with breast cancer. The cousins are veterans of the Siemens

Competition, having placed as semifinalists two years ago for attempting to infuse lettuce with Vitamin C.

Ms. Walianny, her school valedictorian, has participated in numerous science fairs and won first place in Pharmacology at the Los Angeles County Fair. For the past two years she has interned at the City of Hope cancer research center. She is the editor of her school newspaper and hopes to become a physician.

Ms. Kurwa, an avid archer, is the founder of her school Renaissance Club and head of her school's Future Business Leaders of America. She enjoys singing and was a member of Glee Club. With dual interests in history and science, she aspires to a career as a history of science professor.

The team spent close to two years working on their research. Their mentors on the project were Dr. Susan Kane, Associate Director, and Long Gu, Research Associate, Beckman Research Institute of City of Hope, and Laura Berger, Senior Class Anatomy and Physiology Professor, Flintridge Preparatory School.

Runners-Up

Runners-up each received a \$1,000 scholarship. In addition, the Siemens Foundation awards \$2,000 per project to the high school of every regional finalist.

Runners-up in the individual category were:

- Emily Liu, Lewis and Clark High School, Spokane, WA
- Monica Liu, Palos Verdes Peninsula High School, Rolling Hills Estates, CA
- Samuel Spevack, Grossmont Middle College High School, El Cajon, CA
- Tisa Thomas, Troy High School, Fullerton, CA

Team runners-up were:

- Tiffany Chen, Stephanie Chen and Sameen Sharieff, Troy High School, Fullerton, CA
- Dhruv Nandamudi, Monta Vista High School, Cupertino, CA, and Daniel Stemp, North Shore Hebrew Academy High School, Great Neck, NY
- Christopher Patuwo and Byron Lee, Troy High School, Fullerton, CA
- Alexander Penn, Monta Vista High School, Cupertino, CA, and Yusung (John) Lim, Herricks High School, New Hyde Park, NY

The Siemens Competition

The Siemens Competition was launched in 1998 to recognize America's best and brightest math and science students. This year, 1,641 students registered to enter the competition with a record number of projects submitted, including a 9% increase in team projects.

Entries are judged at the regional level by esteemed scientists at six leading research universities which host the regional competitions: California Institute of Technology; Carnegie Mellon University; Georgia Institute of Technology; Massachusetts Institute of Technology; University of Notre Dame; and The University of Texas at Austin.

The National Finals, judged by a panel of nationally renowned scientists and mathematicians, will take place November 30 – December 3 at New York University in New York City.

Log on to www.siemens-foundation.org to watch the national finalists during a webcast from the Siemens Competition National Finals in New York. Webcast schedule: Student presentations are available beginning on Sunday, December 2 at 12:00pm EST. Live webcast of the national winners press conference on Monday, December 3, from 8:30am EST.

The Siemens Foundation

The Siemens Foundation, established in 1998, is a national leader in math and science education, providing more than \$2 million in scholarships and awards annually. Based in Iselin, New Jersey, the Foundation's signature programs – the Siemens Competition in Math, Science & Technology, the Siemens Awards for Advanced Placement, and the Siemens Teacher Scholarships – recognize exceptional achievement in science, math and technology. By supporting outstanding students today, and recognizing the teachers and schools that inspire their excellence, the Foundation helps nurture tomorrow's scientists and engineers. The Foundation's mission is based on the culture of innovation, research and educational support that is the hallmark of Siemens' U.S. operating companies and its parent company, Siemens AG. For more information, please visit www.siemens-foundation.org.

The College Board

The College Board is a not-for-profit membership association whose mission is to connect students to college success and opportunity. Founded in 1900, the association is composed of more than 5,200 schools, colleges, universities, and other educational organizations. Each year, the College Board serves seven million students and their parents, 23,000 high schools, and 3,500 colleges through major programs and services in college admissions, guidance, assessment, financial aid, enrollment, and teaching and learning. Among its best-known programs are the SAT®, the PSAT/NMSQT®, and the Advanced Placement Program® (AP®). The College Board is committed to the principles of excellence and equity, and that commitment is embodied in all of its programs, services, activities, and concerns. For further information, visit www.collegeboard.com.

NOTE TO EDITORS: B-roll and additional photos of winners available on request.

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CAPTION: Ayon Sen of Austin, Texas – winner of the 2007-08 Siemens Competition in Math, Science & Technology Region 1 Finals at Caltech.

CAPTION: Shelina Kurwa (left) and Sarah Waliany of Arcadia, California – team winners of the 2007-08 Siemens Competition in Math, Science & Technology Region 1 Finals at Caltech.