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MISSISSIPPI AND NORTH CAROLINA TEENS TAKE REGIONAL TITLE IN NATION'S TOP HIGH SCHOOL SCIENCE COMPETITION

Siemens Competition Regional Winners Announced for South Next Stop: National Finals and a Shot at \$100,000

Madhavi Gavini of Starkville, Mississippi, Wins Top Individual Prize;
Sagar Indurkhya of Charlotte, North Carolina and Nicholas Tang of Cary,
North Carolina, Win Top Team Prize

ATLANTA, GA, November 18, 2006 — Genome biology and bioengineering earned top honors tonight for Madhavi Gavini and Sagar Indurkhya and Nicholas Tang in the Southern Regional Finals of the 2006-07 Siemens Competition in Math, Science & Technology, the nation's premier high school science competition.

The prestigious Siemens Competition, a signature program of the Siemens Foundation, is administered by the College Board. As Siemens Competition National Finalists, tonight's winners will be invited to join an elite group of just six individuals and six teams competing at the Siemens National Finals at New York University in New York this December for scholarships ranging from \$10,000 to the top prize of \$100,000.

"These young science stars are a shining example of American ingenuity at its most inspiring," said James Whaley, president of the Siemens Foundation. "They have more than upheld the exceptionally high standards set by their predecessors in this Super Bowl of science competitions."

The students presented their research this weekend to a panel of judges from the Georgia Institute of Technology (Georgia Tech), host of the Southern Regional Finals.

Madhavi Gavini, a senior at the Mississippi School for Mathematics and Science in Columbus, Mississippi, won the individual category and a \$3,000 college scholarship for her research which combines microbiology and genome biology to address the potential use of plant extracts in treating bacterial infections.

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Sagar Indurkha and Nicholas Tang, seniors at the North Carolina School of Science and Mathematics in Durham, North Carolina, won the team category and will share a \$6,000 scholarship for developing a computer model of a synthetic biological system as a way to engineer biology for specific applications.

The Winners

In her winning project, *Engineering a novel inhibitor of biofilm-encapsulated pathogens*, Madhavi Gavini researched the chemical basis of the activity of several herbs and herbal products, testing for bacterial gene expression that may be affected by the plant extract. She found that some herbs had inhibitory effects on microbial growth under laboratory conditions, and that this effect correlated with changes in bacterial gene expression.

“Madhavi showed impressive command of everything from traditional bacteriology to 21st century molecular biology technique, such as genetic analysis using DNA microchips,” said competition judge, Dr. Thomas Tornabene, Professor Emeritus of the School of Biology, Georgia Tech. “The breadth of her work places her at a first year graduate level.”

Ms. Gavini’s mentors were Prof. Lakshmi Pulakat, Department of Biological Sciences, Mississippi State University, and Dr. Mary Davidson, The Mississippi School for Mathematics and Sciences.

Ms. Gavini has received a number of awards for her scientific work, including the 2006 INTEL Foundation Young Scientist Scholarship and Best of Category in the Medicine and Health at 2006 INEL ISEF. She has had many discussions on the medicinal properties of herbs with her grandmother and late grandfather who practiced traditional Indian medicine. It was her grandfather who suggested that herbs might help in the treatment of infections. She would like to become a biomedical researcher.

Sagar Indurkha and Nicholas Tang won the team prize for their project, *Engineering Synthetic Oscillatory Gene Networks at the Population Level*. The team’s work was in the new area of synthetic biology, an interdisciplinary field that uses concepts based on living systems to design biological networks using principles analogous to those used to design electronic networks.

“Working in a new field known as synthetic biology, Sagar and Nicholas have combined various elements of bacterial gene regulation into a sophisticated design,” said competition judge, Dr. Nicholas Hud, Associate Professor of Chemistry and Biochemistry, Georgia Tech. “The complexity of their project was impressive, as was their advanced understanding of

biology, chemistry and computer science, the three disciplines they combined to develop the computer model of their proposed artificial genetic system.”

The team’s mentors were Dr. Lingchong You and Dr. Jingdong Tin of the Duke Department of Biomedical Engineering. Earlier in November, Sagar and Nicholas presented their work at the 2006 Genetically Engineered Machines (iGEM) conference at MIT.

Fluent in Hindi, Sagar Indurkhya is the co-president of his school’s Model UN team as well as president and founder of the computing club. Previously, Mr. Indurkhya received a 1st Place Airforce Award at the Intel International Science and Engineering Fair (ISEF) and 1st Place in Computer Science at the North Carolina Student Academy of Sciences. His personal hero is the noble-prize winning physicist Richard P. Feynman and he hopes one day to become a computer science professor.

Nicholas Tang is a talented musician who has played violin and piano for seven and 11 years respectively. In 2003, he received the Excellent Performance Award at Cary Music School. His favorite subjects are immunology and embryology. He would like to become a professor of synthetic immunology (an emerging field).

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:

- Abhiram Chivukula, William G. Enloe High School, Raleigh, NC
- Hae Rhee Chung, The North Carolina School of Science and Mathematics, Durham, NC
- Larissa Wenren, Tullahoma High School, Tullahoma, TN
- Steve Wu, Saint Joseph High School, Saint Joseph, MI

Team runners-up were:

- Tirth Patel & Byron Lowry, Spruce Creek High School, Port Orange, FL
- Michael Pham & Hongsun Kim, The North Carolina School of Science and Mathematics, Durham, NC
- Hung-Bing Tan, Anusuya Ramasubramanian & Benjamin Wang, William G. Enloe High School, Raleigh, NC

The Siemens Competition

The Siemens Competition was launched in 1998 to recognize America’s best and brightest math and science students. This year, 1,660 students entered the competition.

Entries are judged at the regional level by esteemed scientists at six leading research universities which host the regional competitions: Carnegie Mellon University (Middle States),

University of Notre Dame (Midwest), Stanford University (West), Massachusetts Institute of Technology (New England), Georgia Institute of Technology (South), and The University of Texas at Austin (Southwest).

The Siemens National Finals, judged by a panel of nationally renowned scientists and mathematicians, will take place December 1–4 at New York University in New York.

Log on to www.siemens-foundation.org to watch Madhavi Gavini, Sagar Indurkhya and Nicholas Tang during a webcast from the Siemens Competition National Finals in New York. Webcast schedule: Student presentations on Sunday, December 3, 12:00pm-5:00pm EST. Live webcast of the national winners press conference on Monday, December 4, from 8:30am EST.

The Siemens Foundation

The Siemens Foundation, established in 1998, is a national leader in math and science education, providing nearly \$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.

NOTE TO EDITORS: Photos of winners available on request.

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