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## **WONDER KIDS FROM TEXAS AND NEW MEXICO HONORED FOR OUTSTANDING CHEMISTRY AND COMPUTER SCIENCE RESEARCH AT THE NATION'S PREMIER HIGH SCHOOL SCIENCE COMPETITION**

### **Siemens Competition Regional Winners Announced at UT Austin; Will Compete for \$100,000 at National Finals in New York**

Wen Chyan of Denton, Texas, Wins Top Individual Prize  
Erika DeBenedictis and Duanni (Tony) Huang of Albuquerque, New Mexico, Win Top Team Prize

AUSTIN, TX, November 15, 2008 — Chemistry and computer science research received top billing in the Region Two Finals of the 2008 Siemens Competition in Math, Science & Technology, the nation's premier high school science research competition.

The Siemens Competition is a signature program of the Siemens Foundation and 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 competed with some of the greatest young minds in our country, and are now on an amazing journey to the finals of the most coveted high school science prize in the nation," said James Whaley, President of the Siemens Foundation. "The fact that we've experienced a record-setting year, including a 10% increase in both team and individual project submissions and more than a 16% increase in the number of registrations, makes their achievement even more commendable. We congratulate them on their hard work, and look forward to welcoming them to the national event."

The students presented their research this weekend to a panel of judges from The University of Texas at Austin (UT Austin), host of the Region two Finals.

#### **Individual Winner**

Wen Chyan, a senior at the Texas Academy of Mathematics and Science, in Denton, Texas, won the individual category, and a \$3,000 college scholarship, for his chemistry research of antimicrobial coatings. Mr. Chyan's project titled *Versatile Antimicrobial Coatings from Pulse Plasma Deposited Hydrogels and Hydrogel Composites*, looked to design a specialized coating aimed to prevent nosocomial infections, which are infections caused as a side effect of treatment in a hospital and afflict more than two million patients each year, killing more than 100,000 of those patients.

“The full spectrum knowledge of Mr. Chyan demonstrated to the judging panel was unparalleled today,” said Dr. Jennifer Maynard, Assistant Professor of Chemical Engineering at UT Austin. “By taking on complex reactions, assay development, the measurement of silver release kinetics, and finally the testing of his proposed coating, Mr. Chyan showed true expertise on a wide range of topics that have direct applications in the field.”

Mr. Chyan enjoys Organic Chemistry in school, and he would like to major in Chemistry or Chemical Engineering once in college. Upon completing his schooling, Mr. Chyan would like to pursue a position in academia, preferably at a research university where he can continue conducting research and teach at the same time. His various honors in science include recognition from the likes of: US National Chemistry Olympiad, USA Biology Olympiad, and Yale Science and Engineering Fair. He is the recipient of the Texas Academy of Mathematics and Science Summer Research Scholarship (2008), National Merit Semifinalist (2008), as well as an inductee to the National Honor Society.

Mr. Chyan developed an early interest in science from encouragement of his parents, who are both scientists. At an early age, his father would take him to tour his laboratory and perform chemistry demos. Mr. Chyan also plays piano and violin in his spare time. His mentor for this project was Dr. Richard B. Timmons, of the Department of Chemistry and Biochemistry at the University of Texas at Arlington.

### **Team Winners**

Erika A. DeBenedictis, a junior at Albuquerque Academy, and Duanni (Tony) Huang, a senior at La Cueva High School, both of Albuquerque, New Mexico, won the team category and will share a \$6,000 scholarship for their project, entitled Optimizing the Direct Simulation Monte Carlo Algorithm for Multi-Core Processors. The goal of the team's project is to create a physically realistic Direct Simulation Monte Carlo (DSMC) model and optimize its performance on multi-core processors, making simulation available on desktop computers. The research could open doors to simpler methods of simulation of physical systems; such systems include the weather, re-entry of space vehicles (which this project studied), and even modeling of biological processes such as molecular docking.

"This research makes a lot of cross-disciplinary problems, such as auto collisions, more approachable by offering simulation and computing from a desktop processor versus a supercomputer that may cost tens of millions of dollars," said Dr. Gordon S. Novak Jr., Professor of Computer Sciences at UT Austin. "The judges were impressed with the amount of work and the deep knowledge demonstrated by this team."

Ms. DeBenedictis enjoys the study of physics the most because it allows you to not only get to know something, but also to understand how it works. She would like to pursue an undergraduate degree in Aerospace or Physics to satisfy her interests in the field. Ms. DeBenedictis enters the Science Fair, Supercomputing Challenge, Science Olympiad and USACO (Computing Olympiad) nearly every year. Her dream job would be to work on aerospace research for such exploration as Mars missions and beyond. As part of her hobbies she participates in Girls Ensemble at her school and plays piano.

Mr. Huang notes the sciences as his favorite subjects, and thus would like to continue on to major in Electrical Engineering once in college. He has participated in many science competitions,

among his credits are honors at Science Olympiads, Science Bowl/Quiz Bowls and MATHCOUNTS where he also acts as an Assistant Coach. Mr. Huang is also a member of the National Honor Society Mentorship at the Center for High Tech Materials. He would like to become a professor one day, and is interested in aerospace and engineering because of the admiration for his dad, an Air Force research physicist. He was born in Shanghai, China where he lived until he was three.

The team's mentors for this project were Dr. Michail Gallis and Dr. Erik DeBenedictis, both are research scientist at Albuquerque based Sandia National Laboratories.

### **Regional Finalists**

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

Regional finalists in the individual category were:

- Anika R. Petach, Fairview High School, Boulder, CO
- Amanda J. Lu, Plano West Senior High School, Plano, TX
- Nilesh Tripuraneni, Clovis West High School, Fresno, CA

Regional finalists in the team category were:

- Qingliu Yang, Elisa B. Lin, Plano West Senior High School, Plano, TX and Hui Miao, The SMIC Private School, Shanghai, China
- Jacob S. Schaffert, Jess Schwartz College Prep, Phoenix, AZ and Hayley M. Browdy, Deerfield Beach High School, Deerfield Beach, FL
- Jeffrey D. Chan, William P. Clements High School, Sugar Land, TX, Alicia Q. Zhang, Liberal Arts and Science Academy, Austin, TX, and Sameer K. Deshpande, Texas Academy of Mathematics and Science, Denton, TX
- Yi Zhang and Joshua Y. Chang, Bellaire High School, Bellaire, TX

### **About the Siemens Competition**

The Siemens Competition was launched in 1998 to recognize America's best and brightest math and science students. This year, 1,893 students registered to enter the Siemens Competition this year with a total of 1,205 projects submitted – this includes an increase of more than 10% in team and individual project submissions and an increase of more than 16 % in the number of registrations.

Entries are judged at the regional level by esteemed scientists at six leading research universities which host the regional competitions: Massachusetts Institute of Technology (November 7-8); University of Notre Dame (November 7-8); University of Texas at Austin (November 14-15); Carnegie Mellon University (November 14-15); California Institute of Technology (November 21-22); and Georgia Institute of Technology (November 21-22).

Winners of these regional events are invited to compete at the National Finals at New York University, December 5 – December 8, 2008. Log on to [www.siemens-foundation.org](http://www.siemens-foundation.org) on December 8, 2008 at 9:30am EST to view a live webcast of the National Finalist Award Presentation in New York City.

**About the Siemens Foundation**

The Siemens Foundation provides more than \$7 million annually in support of educational initiatives in the areas of science, technology, engineering and math in the United States. Its signature programs, the Siemens Competition in Math, Science & Technology and Siemens Awards for Advanced Placement, reward exceptional achievement in science, math and technology. The newest program, The Siemens We Can Change the World Challenge, encourages K-12 students to develop innovative green solutions for environmental issues. 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. companies and its parent company, Siemens AG. For more information, visit [www.siemens-foundation.org](http://www.siemens-foundation.org).

**About 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 5,400 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](http://www.collegeboard.com).

**NOTE TO EDITORS: Event B-roll and Photos of winners are available upon request.**

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