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**NEWS RELEASE**

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**FOUR STUDENTS JOIN $100,000 WINNERS’ CIRCLE**

**IN 2012 SIEMENS COMPETITION IN MATH, SCIENCE & TECHNOLOGY**

**Kensen Shi of College Station, Texas, Wins $100,000 Individual Prize**

**for Research on Robot Navigation;**

**Jeremy Appelbaum of Woodmere, New York, and William Gil and Allen Shin of Valley Stream, New York, Win $100,000 Team Prize for Research on Plant Protein**

WASHINGTON, DC, December 4, 2012— Research projects on robot navigation and on a tumor-suppressing protein today earned four remarkable students entrée into the prestigious $100,000 winners’ circle of the Siemens Competition in Math, Science & Technology, the nation’s premier research competition for high school students. The students join a highly selective group of just 13 individual competitors and 13 teams who have previously been awarded Grand Prizes in the Siemens Competition.

Kensen Shi, a senior at A&M Consolidated High School in College Station, Texas, won the $100,000 Grand Prize in the Individual category for developing a new method to improve robot motion planning. Jeremy Appelbaum, William Gil and Allen Shin, seniors at George W. Hewlett High School in Hewlett, New York, will share the $100,000 Grand Prize in the Team category for investigating COP1, a key protein in plants and animals.

The Siemens Competition is a signature program of the Siemens Foundation, a leading supporter of science, technology, engineering and mathematics (STEM) education in the United States. The Competition is administered by the College Board. The fourteenth annual awards were presented this morning at The George Washington University, host of the 2012 Siemens Competition National Finals.

***Video, photos and bios at*** [***http://inr.synapticdigital.com/siemens/competition2012/***](http://inr.synapticdigital.com/siemens/competition2012/)

“We applaud Kensen Shi, Jeremy Appelbaum, William Gil and Allen Shin on the outstanding ingenuity and commitment they have shown in their research,” said Jeniffer Harper-Taylor, president of the Siemens Foundation. “This is just the beginning of what we hope will be a lifelong journey for them in science, technology and mathematics. We wish them every success on the journey and look forward to seeing their innovations to come.”

Six individuals and six teams competed at the National Finals this weekend after winning one of six regional competitions in November. They presented their research to a panel of judges comprised of nationally renowned scientists and mathematicians headed by lead judge Akos Vertes, PhD, Professor of Chemistry, Biochemistry and Molecular Biology, The George Washington University, and co-director of the university’s W.M. Keck Institute for Proteomics Technology and Applications.

**The Winning Individual**

Kensen Shi won a $100,000 college scholarship for his project, *Lazy Toggle PRM: A Single-Query Approach to Motion Planning.*

“Kensen Shi designed a faster algorithm for robot motion planning, a very challenging problem in robotics,” said competition judge Dr. Shashi Shekar, McKnight Distinguished University Professor, Computer Science and Engineering, University of Minnesota. “Imagine a robot from *Transformers* choosing a path and appropriate shape such as a dog or a snake to navigate a collapsed building to reach survivors after an earthquake. Finding a solution quickly matters. A critical component is computation time to figure out a path and shape sequence. In many cases, Kensen’s algorithm is two to four times faster than previous algorithms in terms of computation time.”

“For a high school student, it is very impressive work. His results are comparable to those of a PhD student beginning their thesis. He connected the dots between two algorithmic ideas called ‘Toggle’ and ‘Lazy’ to bring them together in an effective way.”

Kensen has won honors in a variety of mathematics and science competitions. As Texas American Regional Mathematics League Gold Team captain, he led his team to 13th place nationally. He placed 21st nationally in the USA Computing Olympiad Gold Division and was a US National Chemistry Olympiad finalist. A senior, he is captain of his school’s Science Bowl team, which placed second regionally for two consecutive years. President of the Math Club, he presented a series of seminars on advanced topics and qualified for the USA Junior Mathematical Olympiad. He is an accomplished pianist, having won numerous awards in the Houston Forum Young Artists Piano Competition. He also loves to swim. Kensen aspires to become a professor and researcher in computer science. He was mentored by Dr. Nancy Amato, Texas A&M University.

**The Winning Team**

Jeremy Appelbaum, William Gil and Allen Shin will share a $100,000 college scholarship for their project, *COP1 Arrests Photomorphogenesis in Dark Grown Gametophytes of Ceratopteris richardii; A Study of COP1 in Cryptogams*.

“The students investigated COP1, a key protein that acts as a tumor suppressor in humans and controls light-dependent development in plants,” said competition judge Dr. Hanjo Hellmann, Assistant Professor, School of Biological Sciences, Washington State University. “The team looked at a germinating fern and studied how it develops in the light and dark, showing for the first time that COP1 plays a role in its development. Understanding COP1’s precise role in the cell may help in developing multiple applications in plants and animals in the future.”

“We were impressed by the enthusiasm of the students and by the fact that they carried out their research entirely with the resources available at their high school laboratory.”

Jeremy is a member of his school newspaper and volleyball team, as well as a student tutor. He would like to major in biology or chemistry and aspires to be a physician.

William is president of the leadership group, We are Future Leaders. He volunteers at the American Cancer Society and is a member of the varsity fencing team. He would like to become a biomedical researcher.

Allen plays volleyball for his school and participates in an annual mission trip to help residents of impoverished areas. He would like to become a doctor.

The team was mentored by Dr. Terrence Bissoondial, a biological research teacher at George W. Hewlett High School in Hewlett, New York. Dr. Bissondial is the recipient of a Siemens Foundation Founder’s Award, which recognizes outstanding individuals for encouraging students to engage in STEM subjects.

**National Finalists**

Six individuals and six teams competed at the Siemens Competition National Finals. The remaining National Finalists were awarded the following scholarships:

Individuals

* $50,000 scholarship – Jiayi Peng, Horace Greeley High School, Chappaqua, New York (Physics)
* $40,000 scholarship – Samuel Pritt, Home School, Walkersville, Maryland (Computer Science)
* $30,000 scholarship – Saumil Bandyopadhyay, Maggie L. Walker Governor’s School for Government and International Studies, Richmond, Virginia (Electrical Engineering)
* $20,000 scholarship – James Howe, Regina High School, Iowa City, Iowa (Biology)
* $10,000 scholarship – Raghav Tripathi, Westview High School, Portland, Oregon (Biochemistry)

Teams

* $50,000 scholarship – Daniel Fu, Park Tudor School, Indianapolis, Indiana, and Patrick Tan, Carmel High School, Carmel, Indiana (Mathematics)
* $40,000 scholarship – Neil Davey, Montgomery Blair High School, Silver Spring, Maryland, and Katie Barufka, Langley High School, McLean, Virginia (Microbiology)
* $30,000 scholarship – AJ Toth and Jim Andress, Oak Ridge High School, Oak Ridge, Tennessee (Computer Science)
* $20,000 scholarship – Jonathan Tidor and Rohil Prasad, Lexington High School, Lexington, Massachusetts (Mathematics)
* $10,000 scholarship – Thomas Luh, Leland High School, San Jose, California, and Joy Jin, Henry M. Gunn High School, Palo Alto, California (Biology)

**The Siemens Competition**

Launched in 1998, the Siemens Competition is the nation’s premier science research competition for high school students. 2,255 students registered to enter the Siemens Competition this year for a total 1,504 projects submitted. 322 students were named semifinalists and 93 were named regional finalists, representing 25 states. 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.

Follow us on the road to the Siemens Competition: Follow us on Twitter [@SFoundation](http://@SFoundation) (#SiemensComp) and like us on Facebook at [SiemensFoundation](http://www.facebook.com/SiemensFoundation). Visit [www.siemens-foundation.org](http://www.siemens-foundation.org) for a webcast of the National Finalist Awards Presentation.

**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 mathematics (STEM) in the United States. Its signature programs include the Siemens Competition in Math, Science & Technology, Siemens Awards for Advanced Placement, and The Siemens We Can Change the World Challenge, which 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).

**The College Board**

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the College Board was created to expand access to higher education. Today, the membership association is made up of more than 6,000 of the world’s leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, the College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success — including the SAT® and the Advanced Placement Program®. The organization also serves the education community through research and advocacy on behalf of students, educators and schools. For further information, visit [www.collegeboard.org](http://www.collegeboard.org).

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