SIEMENS | Foundation   **NEWS RELEASE**

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ALABAMA, COLORADO, AND NEW YORK STUDENTS WIN REGIONAL SIEMENS COMPETITION AT THE UNIVERSITY OF TEXAS AT AUSTIN

**Regional Winners Move on to Final Phase of Competition: National Finals in Washington, D.C.
Kenneth Jiao, Birmingham, AL, Wins Top Individual Honors;
Chelsea Wang, Fort Collins, CO, Rachel Li, Poughkeepsie, NY, and Jainil Sutaria, Ardsley, NY,
Win Top Team Honors**

ISELIN, NJ, Nov. 13, 2017 –Four students have been named National Finalists in the Siemens Competition in Math, Science & Technology after earning top spots in one of two regional competitions that took place this past weekend. The Competition is the nation's premier science research competition for high school students and promotes excellence by encouraging students to undertake individual or team research projects. For more information go to: www.siemens-foundation.org

Kenneth Jiao of Birmingham, AL, earned top individual honors and a $3,000 scholarship for discovering a new role of genes that could link to breast cancer metastasis. **Chelsea Wang** of Fort Collins, CO, **Rachel Li** of Poughkeepsie, NY, and **Jainil Sutaria** of Ardsley, NY, shared the $6,000 team scholarship for developing a novel gel compound that could help bone regeneration in teeth by acting as a barrier to bacteria. They were among 101 students overall selected to compete in regional competitions across the country this month out of a pool of more than 1,860 projects submitted for the competition this year.

These regional winners now move to the final phase of the Siemens Competition to present their work at the National Finals in Washington, D.C., December 4-5, 2017, where $500,000 in scholarships will be awarded, including two top prizes of $100,000. Each of the finalists will receive at least $25,000 in scholarship money.

The students presented their research this weekend to a panel of judges at The University of Texas at Austin, host of the Region Two Finals.

"It's amazing to see the knowledge and determination students bring to the competition each year," said David Etzwiler, CEO of the Siemens Foundation. "These high school students are presenting top-notch, graduate-level research and they deserve recognition for their efforts to improve so many lives."

The Siemens Competition, launched in 1999 by the Siemens Foundation, increases access to higher education for students who are gifted in STEM and is based on the culture of innovation, research and educational support that is the hallmark of Siemens. The competition, administered by Discovery Education, develops a pipeline for the nation's most promising scientists, engineers and mathematicians.

The Winning Individual for Region Two
Kenneth Jiao, a senior from Indian Springs School in Indian Springs Village, AL, won the individual category and a $3,000 scholarship for his project entitled, "Retain CHD7, an Epigenetic Regulator, in the Nucleus to Combat Breast Cancer Metastasis."

Kenneth discovered a new role of the gene and its molecular processes that could link to breast cancer metastasis, which occurs when cancer cells spread from a primary site to distant organs. His research could lead to an improved molecular understanding of the growth and prognosis of breast cancer, as well as better methods of developing treatments for patients with breast cancer.

An estimated 90 percent of breast cancer deaths are a result of metastatic disease, either at diagnosis or recurrence. And, according to the Metastatic Breast Cancer Network, an advocacy group for patients with late-stage breast cancer, all deaths from breast cancer result from the spread of breast cancer cells to other vital organs such as the bones, lung, liver or brain. Despite great progress in cancer therapy, treatments to cure metastatic breast cancer do not exist.

"Kenneth's research could bring scientists one step closer to developing a new biomarker for breast cancer metastasis and saving lives," said competition judge Dr. Z. Jeffrey Chen, D. J. Sibley Centennial Professor of Molecular Biosciences at The University of Texas at Austin. "It's rare to see this level of progress achieved in an independent project. Kenneth's work is phenomenal, and could help reveal the underlying mechanisms in breast cancer metastasis."

Kenneth was inspired to pursue his research after his mother had a breast cancer scare a few years ago and he "felt the patients' vulnerability and their families' desperation." Kenneth serves on student government, runs cross country for his high school's varsity team, and founded his school's Science Olympiad Team. Ken is an avid chess player, ranked 28th in Alabama, and guided his school's chess team as its captain to first place at the Alabama Scholastic State Championships twice. Kenneth received 3rd Place Grand Prize at the Intel International Science and Engineering Fair.

Kenneth's mentor is Dr. Lizhong Wang of The University of Alabama at Birmingham School of Medicine.

The Winning Team for Region Two

Chelsea Wang of Fort Collins, CO, **Rachel Li** of Poughkeepsie, NY, and **Jainil Sutaria** of Ardsley, NY, won the team category and will share a $6,000 scholarship for their project entitled "Synthesizing and Characterizing Novel Gelatin and Pluronic F127 Hybrid Hydrogels as a Barrier Membrane for Guided Bone Regeneration Following Periodontitis."

Chelsea, Rachel, and Jainil developed a novel gel compound that acts as a barrier, preventing gum tissue from invading the bone tissue affected by gum disease, allowing guided regeneration of the bone surrounding the tooth root.

People with advanced periodontitis are at risk of bone loss and tooth loss, which in some cases can be reversed with regenerative procedures. The team's research presents a promising new method for guided bone regeneration, a procedure in which surgically placed barrier materials prevent cells from the inflamed gum to enter the area of the damaged bone, allowing bone regeneration by osteoblast (bone cells) repopulation.

"The team's research is an important contribution to the field of restorative dentistry and our understanding of the barrier materials allowing guided bone regeneration. It could have an impact on the lives of millions suffering from periodontitis," said competition judge Dr. Janet Zoldan, Assistant Professor at The University of Texas at Austin in the Department of Biomedical Engineering. "This project ultimately helps solve the tricky problem of having an effective barrier material that is strong enough to withstand the shearing forces applied on and by teeth yet degrades over time once bone is regenerated. I was very impressed with the team's depth of knowledge of the field, techniques they used, and their thorough work."

Chelsea, a senior at Fossil Ridge High School in Fort Collins, CO, is the president of her school's Science Olympiad team and is a two-time national medalist, finishing 3rd and 4th at the Science Olympiad National Tournament. She serves as secretary of the Science National Honor Society and secretary of the Future Business Leaders of America, winning the state competition for Global Business. Chelsea works actively to engage elementary and middle school-aged kids involved in STEM, and was inspired to conduct her research after seeing family members suffer from periodontitis.

Rachel has been fascinated by science ever since she took middle school biology. A junior at Spackenkill High School in Poughkeepsie, NY, she is already enrolled in college-level computational neuroscience courses at the Columbia Science Honors Program. Rachel is active on her school's Science Olympiad team, placing in events such as Materials Science, Chemistry Lab, Rocks and Minerals, and Invasive Species at both the state and invitational levels. Apart from her scientific endeavors, Rachel enjoys playing the violin, piano, and tennis as well as volunteering in her local community. She is on her school's varsity tennis team and was accepted into Area All-State and All-State Orchestras.

Jainil, a senior at Ardsley High School in Ardsley, NY, has followed his interest in STEM and twice won silver medals at the International Genius Olympiad. He also founded, and is president of, his school's robotics club, and is co-president of "Ardsley Innovates," a club aimed at teaching the novelties of technology to students. Jainil plays percussion in his school's jazz band and wind ensemble and has played in the All-County and Area All-State bands. He has also earned All-League and All-Section honors for fencing, and he competed at the Junior Olympics for fencing in 2017.

The team's mentor is Dr. Miriam Rafailovich of Stony Brook University

Regional Finalists

The remaining regional finalists each received a $1,000 scholarship.

Regional Finalists in the individual category were:
- **Charles Hutchison**, St. Andrew's Episcopal School, Ridgeland, MS
- **Michael Ma**, Plano West Senior High School, Plano, TX
- **Abhishek Mohan**, Texas Academy of Mathematics and Science, Denton, TX
- **George Wang**, Oklahoma School of Science and Mathematics, Oklahoma City, OK

Team Regional Finalists were:
- **Brandon Chen**, Plano West Senior High School, Plano, TX, **Andrew Lu**, Westwood High School, Austin, TX, and **Claire Zhou**, Clements High School, Sugar Land, TX
- **Sahil Patel,** Texas Academy of Mathematics and Science, Denton, TX and **Steven Sun**, Texas Academy of Mathematics and Science
- **Kshitij Sachan**, Plano East Senior High School, Plano, TX, and **Yesh Doctor**, Plano East Senior High School, Plano, TX
- **David Yue,** Texas Academy of Mathematics and Science, Denton, TX, and **Charles Rothkrug**, St. Mark's School of Texas, Dallas, TX

The Siemens Competition
For the 2017 Siemens Competition, 1,860 projects were submitted for consideration. 491 students were named Semifinalists from which 101 were named Regional Finalists. For the regional finals, the students present their research in a closed, online forum, and entries are judged by esteemed scientific experts at six leading research universities which host the regional competitions: Massachusetts Institute of Technology (November 4); University of Notre Dame (November 4); The University of Texas at Austin (November 11); California Institute of Technology (November 11); and Georgia Institute of Technology (November 18); and Carnegie Mellon University (November 18).

The winners of each regional weekend will be announced at 12 noon (ET) on the following Monday at *http://siemensusa.synapticdigital.com/US/Siemens-Foundation*.

Winners of the regional events will advance to the National Finals to be held at The George Washington University in Washington, D.C., December 4-5, 2017, where $500,000 in scholarships will be awarded, including the two top prizes of $100,000 and one of the most prestigious science honors awarded to high school students in the country today. Every finalist will receive at least $25,000 in scholarship money.

For up-to-date news and announcements about the Regional Competitions and the National Finals, follow us on Twitter @SFoundation and Instagram @SiemensFdn (#siemenscomp) and like us on Facebook at SiemensFoundation.

Interviews, video and photos available by
visiting http://siemensusa.synapticdigital.com/US/Siemens-Foundation.

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About the Siemens Foundation

The Siemens Foundation has invested more than $100 million in the United States to advance workforce development and education initiatives in science, technology, engineering and math. The Siemens Foundation's mission is inspired by the culture of innovation, research and continuous learning that is the hallmark of Siemens' companies. Together, the programs at the Siemens Foundation are helping close the opportunity gap for young people in the U.S. when it comes to STEM careers, and igniting and sustaining today's STEM workforce and tomorrow's scientists and engineers. For further information, visit www.siemens-foundation.org or follow us on Twitter @sfoundation or Instagram @SiemensFdn

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