

**Contact:**

Elizabeth Cho  
Siemens Foundation  
917-622-2413  
[elizabeth.cho@siemens.com](mailto:elizabeth.cho@siemens.com)

Michael Zerman  
Weber Shandwick  
314-552-6787  
[mzerman@webershandwick.com](mailto:mzerman@webershandwick.com)

**FOUR PENNSYLVANIA STUDENTS WIN REGION FIVE OF SIEMENS COMPETITION*****Top Regional Winners Move on to National Finals in Washington, D.C.***

**Milind Jagota (Bethlehem, Pa.) Wins Top Individual Honors;  
Emily Cheng (Lansdale, Pa.), Kelly Jiang (Wayne, Pa.) and Gerald Liu (Audubon, Pa.)  
Win Top Team Honors**

ISELIN, NJ, Nov. 9, 2015 – Months of research and preparation in science, technology, engineering and mathematics (STEM) fields paid off for four students named National Finalists in the Siemens Competition in Math, Science & Technology after earning top spots in Region Five. **Milind Jagota** of Bethlehem, Pa. earned top individual honors and a \$3,000 scholarship for research on identifying ways to increase performance of electronic materials. Research on minimally invasive cancer screenings to advance early detection of the disease earned **Emily Cheng** of Lansdale, Pa., **Kelly Jiang** of Wayne, Pa. and **Gerald Liu** of Audubon, Pa. the \$6,000 shared team scholarship and spots in the finals of the nation's premier research competition for high school students.

The students presented their research this weekend to a panel of judges at the Massachusetts Institute of Technology (MIT), host of the Region Five Finals. The top winners are now moving on to the final round to present their work at the National Finals in Washington, D.C., December 4-8, 2015, where \$500,000 in scholarships will be awarded, including two top prizes of \$100,000. The Siemens Competition, a signature program of the Siemens Foundation, is administered by Discovery Education.

"The students participating in the 2015 Siemens Competition have again raised the bar with their submissions," said David Etwiler, CEO of the Siemens Foundation. "This is not a game; this is cutting-edge, original research that advances our knowledge of critical topics and issues facing society today."

**The Winning Individual for Region Five**

Milind Jagota, a senior from Liberty High School in Bethlehem, Pa., won the individual category and a \$3,000 scholarship for his project entitled, "Computational Study of Random Nanowire Networks: Optimization of Conductivity through Orientation."

Milind Jagota's project, focused on improving performance of electronic materials that could be used in electronic devices from solar panels to smartphones, looks to foster innovation across areas of electronic production. As smartphones and tablets increased their prominence in everyday life, Milind became intrigued by the magic happening behind the touch screens, and the technology which made this possible. His research made apparent the critical role of transparent conductors in touchscreens and the impact of their broader use.

"The development of such novel transparent conducting films has the potential to significantly improve modern electronics," said competition judge Dr. Ali Khademhosseini, Professor of Medicine at Harvard

Medical School and Director of the Biomaterials Innovation Research Center at Brigham and Women's Hospital. "The findings of his project showcase that more affordable electronic devices could be the wave of the future as materials become more affordable in production."

Milind aspires to be an electronics engineer and is interested in both consumer electronics and medical technology. To date, his proudest achievements include publishing this research project in the Nature Publishing Group's *Scientific Reports* and participating in the Pennsylvania Governor's School for the Sciences. Milind plans to major in engineering physics or electrical engineering in college.

Milind Jagota's mentor is Dr. Nelson Tansu, Daniel E. '39 & Patricia M. Smith Endowed Chair Professor and Director of the Center for Photonics and Nanoelectronics (CPN) at Lehigh University.

### **The Winning Team for Region Five**

Emily Cheng of Lansdale, Pa., Kelly Jiang of Wayne, Pa. and Gerald Liu of Audubon, Pa. won the team category and will share a \$6,000 scholarship for their project entitled, "Simultaneous Detection of Genetic and Epigenetic DNA Modifications by Targeted Next Generation Sequencing for Cancer Screening – Assay and Data Analysis Software Development for the Detection of Hepatocellular Carcinoma."

The team developed a panel of genetic and epigenetic DNA markers for the early detection of liver cancer, also creating software to analyze the data to create accurate and specific diagnoses that bypasses the pre-existing data analysis bottleneck in next generation sequencing. With their project, Emily, Kelly and Gerald look to one day develop a panel to effectively screen for cancer in the early stages and prevent it from becoming life threatening for the many people it affects around the world.

"Emily, Kelly and Gerald tackled an important and technically challenging problem and convincingly charted a path toward improved methods for early detection of cancer," said competition judge Dr. Stuart Licht, laboratory head in the Biochemistry and Bioanalytics group within the Oncology division of Sanofi. "This winning team showed an impressive level of skill, knowledge and sophistication."

Emily Cheng, a junior at Methacton High School in Eagleville, Pa., is a member of the National Honors Society and serves as president of her school's French Club and Academic Decathlon Team. The inspiration for her team's project came as a result of one of Emily's close family friends being diagnosed with Stage Four liver cancer and ultimately passing away due to late detection. Emily's career aspiration is to become an obstetrician.

Kelly Jiang, a junior at Conestoga High School in Berwyn, Pa., was inspired to study this area of research while working in her lab and observing a lack of successful methods to ensure the early detection of colon and liver cancer accurately and efficiently. She is a member of the National Honor Society and National Art Honor Society, and also runs as part of her school's varsity cross country and track teams. Kelly aspires to be a pediatrician.

Gerald Liu, a junior at Methacton High School in Eagleville, Pa., plays a vital role on the winning team with his background in bioinformatics and ability to efficiently analyze data. He was inspired to compete in the Siemens Competition while working alongside former finalists in the lab.

The team's mentor is Ying-Hsiu Su, Principal Scientist at Blumberg Institute.

### **Regional Finalists**

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

Regional Finalists in the individual category were:

- Ryan Catalano, North Brunswick Township High School, North Brunswick, N.J.
- Kunal Singh, High Technology High School, Lincroft, N.J.
- Konrad Urban, Fox Chapel Area High School, Pittsburgh, Pa.
- Ziheng Wang, St Paul's School, Concord, N.H.

Team Regional Finalists were:

- Thomas Choi, Phillips Academy, Andover, Mass. and Matthew Wang, Princeton High School, Princeton, N.J.
- Fengyao Ding, Phillips Academy, Andover, Mass. and Cristian Gutu, Joel Barlow High School, Redding, Conn.
- John Heath, South Pasadena High School, South Pasadena, Calif.; Junhyuk Oh, South Pasadena High School, South Pasadena, Calif. And Emma Winson, The Hockaday School, Dallas, Texas
- Kwonil Ko, Cushing Academy, Ashburnham, Mass. and Seung Hwan An, Taft School, Watertown, Conn.

### **The Siemens Competition**

Launched in 1998, the Siemens Competition is the nation's premier science research competition for high school students. Nearly 4,000 registered for this year's competition and a total of 3,162 projects were submitted for consideration. 466 students were named Semifinalists and 97 were named Regional Finalists. The students present their research in a closed, online forum, and entries are judged at the regional level by esteemed scientists at six leading research universities which host the regional competitions: Georgia Institute of Technology, Massachusetts Institute of Technology, California Institute of Technology, Carnegie Mellon University, University of Notre Dame and The University of Texas at Austin.

For news and announcements about the Regional Competitions and the National Finals, follow us on Twitter [@SFoundation](#) (#SiemensComp) and like us on Facebook at [Siemens Foundation](#). A live webcast of the National Finalist Awards Presentation will also be available online at 11 a.m. EST on December 8 at [www.siemens-foundation.org](http://www.siemens-foundation.org).

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

### **The Siemens Foundation**

The [Siemens Foundation](#) has invested more than \$90 million in the United States to advance workforce development and education initiatives in science, technology, engineering and math. The 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. Follow the Siemens Foundation on [Facebook](#) and [Twitter](#).

### **Discovery Education**

Discovery Education is the global leader in standards-based digital content for K-12, transforming teaching and learning with award-winning digital textbooks, multimedia content, professional development, and the largest professional learning community of its kind. Serving 3 million educators

and over 30 million students, Discovery Education's services are in half of U.S. classrooms, over 40 percent of all primary schools in the UK, and more than 50 countries. Discovery Education partners with districts, states and like-minded organizations to captivate students, empower teachers, and transform classrooms with customized solutions that increase academic achievement. Discovery Education is powered by Discovery Communications (NASDAQ: DISCA, DISCB, DISCK), the number one nonfiction media company in the world. Explore the future of education at [www.discoveryeducation.com](http://www.discoveryeducation.com).

# # #