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NEWS RELEASE

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STUDENTS FROM FLORIDA, VIRGINIA AND CALIFORNIA NAMED REGION SIX SIEMENS COMPETITION WINNERS

Winners From Regional Competition Move on to National Finals in Washington, D.C.

Maria Grimmett (Jupiter, Fla.) Wins Top Individual Honors;
Daniel Chae (Oakton, Va.), Sidharth Bommakanti (Pleasanton, Calif.) and Alan Tan (Fremont, Calif.) 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 Six. **Maria Grimmett** of Jupiter, Fla. earned top individual honors and a $3,000 scholarship for research on alternative water purification methods. Research on 3-D tissue printing earned **Daniel Chae** of Oakton, Va.; **Alan Tan** of Fremont, Calif.; and **Sidharth Bommakanti** of Pleasanton, Calif. 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 Georgia Institute of Technology, host of the Region Six Finals. The top winners are now moving 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.

"These students have invested significant time and energy developing highly sophisticated projects that advance research and exploration in critical fields," said David Etzwiler, CEO of the Siemens Foundation. "I commend the finalists for their outstanding achievements and wish them the best in the next phase of the competition."

The Winning Individual for Region Six
Maria Grimmett, a senior from Oxbridge Academy of the Palm Beaches in West Palm Beach, Fla., won the individual category and a $3,000 scholarship for her project entitled, "Adsorption of Sulfamethazine from Environmentally Relevant Aqueous Matrices onto Hypercrosslinked Adsorbent MN250".

Maria used a commercially available polymer to remove antibiotic molecules from the ground water. Maria first became interested in her topic because she wanted to know why her well water was brown. That year, she performed a science project on removing fulvic and humic acids, or common plant products, from water using three different anion exchange resins.

"This project exemplifies a systematic investigation with a clearly defined purpose; it's the breadth of understanding the adsorption process for efficient removal of antibiotics from ground water that is so

impressive." said competition judge Dr. Jie Xu, Senior Research Scientist at the Georgia Institute of Technology. "Maria demonstrated a clear understanding of her subject and collected quality data due to her very systematic research methods. Maria's research can be expanded on to explore removal of other contaminants for water purification in the future."

Maria anticipates majoring in engineering in college, and her favorite course right now is computer science. She is also a member of her school's weekly Computer Science Club. Maria believes computer modeling and programming skills will prove useful in any scientific or engineering discipline.

Outside of the classroom, Maria is a mural artist and Art Club teacher's assistant at the Weiss Elementary School. In this capacity, she paints murals in the school hallways and helps students with art projects. She also plays clarinet and is a member of her school's Fencing Club. In January 2013, she became the youngest author to publish original research in the 43-year history of the *Journal of Environmental Quality*.

With two peer-reviewed articles already published in science journals, Maria believes that elementary school science teachers need to make science personal, fun, and hands-on in order to encourage more students to pursue STEM careers.

Maria's mentor is Dr. Hui Li, Associate Professor of Environmental and Soil Chemistry at Michigan State University.

The Winning Team for Region Six

Daniel Chae of Oakton, Va., Sidharth Bommakanti of Pleasanton, Calif. and Alan Tan of Fremont, Calif., won the team category and will share a $6,000 scholarship for their project entitled, "A Novel Study on the Effect of Surface Topography of 3-D Printed PLA Scaffolds on Dental Pulp Stem Cell Proliferation and Differentiation in vitro."

The team examined 3-D printed structures as a novel substrate for dental pulp stem cells (DPSCs) for use as implants. Utilizing 3-D printed scaffolds to create dental implants, the team laid the groundwork for engineering tissues in the future. A common interest in the rapid rise of 3-D printing applications and the potential for stem cells to dramatically advance the repair of hard and soft tissues inspired the team to pursue this research.

"This project shows great promise to combine the fields of stem cell research and material science to improve human health," said competition judge Dr. Fredrik Vannberg, Biology Professor at the Georgia Institute of Technology. "There is great potential for further research in the therapeutic use of 3-D printers to create both hard and soft tissue."

Daniel Chae, a senior at Thomas Jefferson High School for Science and Technology in Alexandria, Va., currently serves as the co-president of his school's Latin Honor Society, is proficient in Korean and also enjoys archery. After school, Daniel serves as a chemistry and biology tutor for other students. He believes that if there were to be a dramatic advancement of society using discoveries in science, then more people would engage in science and math. He found that although overwhelming at times, the amount of dedication and work to conduct the research and write up the paper was highly rewarding. Daniel served as the project's team lead.

Alan Tan, a senior at Irvington High School in Fremont, Calif., aspires to be a medical researcher. More specifically, what interested him in his current area of research is the potential for dental pulp stem cells (DSPCs) to circumvent ethical concerns about using stem cells for research. He soon found himself

engrossed in the subject, learning that DSPCs are a source of stem cells that could be very useful in the regeneration of various body parts, including bones. Outside of the classroom, Alan has been recognized for his volunteer service – earning a Presidential Service Award. He also is a mentor in STEM subjects at school, serves as vice president of his school's science club, plays the piano, and likes to play basketball. Alan anticipates majoring in either chemistry or biochemistry in college.

Sidharth Bommakanti, a senior at Amador Valley High School in Pleasanton, Calif., wants to pursue a career in medicine. His interest in the field has been fueled by his passion for biology, and the potential for biological science to impact lives lies at the root of this. Sidharth also tutors underclassmen in chemistry and biology. He anticipates majoring in molecular and cellular biology. Outside of school, Sidharth participates in Project Wellness Water, a dual filtration system that purifies contaminated water in rural communities. He also serves as vice president of his school's Environmental Club, and volunteers at Valley Care Hospital. In his free time Sidharth enjoys tennis and basketball.

The team's mentor is Dr. Adriana Pinkas-Sarafova, Adjunct Assistant Professor at Stony Brook University.

Regional Finalists

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

Regional Finalists in the individual category were:

- Akshaya Annapragada, Michael E. DeBakey High School for Health Professions, Houston, Texas
- Beverly Ge, F.W. Buchholz High School, Gainesville, Fla.
- Shreya Patel, North Carolina School of Science and Mathematics, Durham, N.C.
- Michael You, Thomas Jefferson High School for Science and Technology, Alexandria, Va.

Team Regional Finalists were:

- Kelly Cho, Thomas Jefferson School for Science and Technology, Alexandria, Va. and Harriet Khang, Thomas Jefferson School for Science and Technology, Alexandria, Va.
- Chaeyeon Oh, Episcopal High School, Alexandria, Va. and Yujin Kim, Stony Brook School, Stony Brook, N.Y.
- Vamsi Varanasi, Enloe High School, Raleigh, N.C. and Vinit Ranjan, North Carolina School of Science and Mathematics, Durham, N.C.

The Siemens Competition

Launched in 1998, the Siemens Competition is the nation's premier science research competition for high school students. Nearly 4,000 students 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.

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

The Siemens Foundation
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