

**CONTACT:**

Valerie Francois  
Siemens Foundation  
732-590-5292  
[valerie.francois@siemens.com](mailto:valerie.francois@siemens.com)

Alexander Aizenberg  
Weber Shandwick  
212-445-8414  
[aaizenberg@webershandwick.com](mailto:aaizenberg@webershandwick.com)

Jennifer Sheeley  
Weber Shandwick  
212-445-8430  
[jsheeley@webershandwick.com](mailto:jsheeley@webershandwick.com)

## **MATH AND MOLECULAR BIOLOGY RESEARCH GARNERS TOP SPOTS FOR OREGON AND CALIFORNIA'S BRIGHTEST TEENS AT NATION'S PREMIER HIGH SCHOOL SCIENCE COMPETITION**

### **The Last of the 2008 Siemens Competition Regional Winners Announced at the California Institute of Technology; Will Compete for \$100,000 at National Finals**

Eric K. Larson, of Eugene, Oregon, Wins Top Individual Prize  
Aanand A. Patel and William Hong, of Fullerton, California, Win Top Team Prize

PASADENA, CA, Nov. 22, 2008 — Research projects in Mathematics and Molecular Biology won top marks this evening for Eric K. Larson and the team of Aanand A. Patel and William Hong in the Region One Finals of the 2008 Siemens Competition in Math, Science & Technology, the nation's premier high school science competition.

The Siemens Competition, a signature program of the Siemens Foundation, 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 for the most coveted high school science prize in the nation," said James Whaley, President of the Siemens Foundation, based in Iselin, New Jersey. "The fact that we've experienced a record-setting year, including a 10 percent increase in both team and individual project submissions and more than a 16 percent 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 distinguished judges from the California Institute of Technology, host of the Siemens Competition Region One Finals.

#### **Individual Winner**

Eric K. Larson, a senior at South Eugene High School in Eugene, Oregon, won the individual category and a \$3,000 college scholarship for his mathematics research that classifies certain types of fusion categories. These are a recently discovered type of algebraic structure with applications to various areas of Theoretical Physics, Computer Science and Mathematics, such as String Theory, Quantum Computation, and Knot Theory. Fusion categories are a far reaching generalization of groups, which are the algebraic structure traditionally used in mathematics to model symmetries. The project was aptly named *The Classification of Certain Fusion Categories*.

“The main result of this project identifies and completely classifies a new class of fusion categories which, for the first time, contains non group-theoretic examples,” said Dr. Matilde Marcolli, Professor of Mathematics, Division of Physics, Math and Astronomy at the California Institute of Technology. “What really impressed the judging panel was that the depth of Mr. Larson's project and his understanding of the field are on par with advanced graduate research, or even with that of a professional mathematician.”

Mr. Larson has always enjoyed math as his favorite subject, and it is the same field he would like to continue for his undergraduate degree and beyond. He is an avid piano player, a four-time winner of the Oregon Junior Bach Festival and has been invited to perform in master classes sponsored by the Eugene Symphony. His various honors in Math include a silver medal at the 48th International Mathematical Olympiad and a gold medal at the USA Mathematical Olympiad.

Mr. Larson's middle school math teacher, Marna Knoer, provided accelerated courses in high-school level Mathematics and extracurricular Mathematics. His participation in these classes resulted in his qualification to attend the Math Olympiad Summer Program since eighth grade – a key occurrence that cemented his interest in math. Mr. Larson is involved in his high school's Math, Chemistry, and Programming clubs. His mentors for this project were Mr. Pavel Etingof, Professor of Mathematics, Massachusetts Institute of Technology and Mr. Victor Ostrik, Professor of Mathematics, University of Oregon.

### **Team Winners**

Aanand A. Patel and William Hong, both seniors at Troy High School in Fullerton, California, won the team category and will share a \$6,000 scholarship for their molecular biology research that has the potential to provide more insight into possible causes of Alzheimer's disease and various cardiovascular diseases through a specific identification of gene expression regulation. The project is titled *Identification of Promoter Transcription Factor Binding Sites that Regulate Expression of Apolipoprotein-E in H4 Neuroglioma Cells*. The team's mentors were Dr. Nilay Patel, Assistant Professor and Mr. Jason Schott, Undergraduate Researcher; both at California State University, Fullerton.

“Both of the students showed deep knowledge and understanding of the research and the collaboration aspect really shone through, which is a necessary step in moving science forward,” said Dr. Angelike Stathopoulos, Assistant Professor in the Division of Biology at the California Institute of Technology. “This research showcases novel ways of investigating the disease, and may in turn create better drugs or treatments with much fewer side effects for the patients.” Alzheimer's affects more than 26 million people worldwide, and is the sixth leading cause of death in the US.

Mr. Patel boasts many regional and national honors in the sciences, including the Xerox Award for Innovation and Information Technology, National Merit Semifinalist and National AP Scholar with Distinction. He is also a member of the National Honor Society and the recipient of the California Scholarship Federation Certificates of Merit.

Mr. Patel is the Vice President of the Peer Tutoring Club, the acting secretary of his school's Programming Club and is also a member of the Red Cross Club. As part of his hobbies, he enjoys

skiing, snowboarding, graphic design, web design and playing the keyboard. His dream job is to be a research physician (MD/PhD), and he currently volunteers at St. Jude Medical Center in his free time.

Mr. Hong has a similar list of honors of his own, akin to that of his school and teammate. He was also named National AP Scholar with Distinction, and is also an inductee to the National Honor Society. He too is a recipient of California Scholarship Federation Certificates of Merit. Additionally, he has been on the Entrance Principal's Honor Roll every year since the ninth grade.

Mr. Hong's dream job is to be a cardiothoracic surgeon, and thus he also volunteers at St. Jude Medical Center, namely at the Brain Injury/Rehab Department. Like his teammate he is a member of the Red Cross and Peer Tutoring clubs. He also participated in the Amnesty International and Origami clubs in his school. He is an avid musician and has played the piano for 12 years, the trombone for seven years and the guitar for two years.

### **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:

- Aniruddha S. Deshmukh, Bellarmine College Preparatory, San Jose, CA
- Marie S. Feng, Westlake High School, Austin, TX
- Lucia Mocz, Mililani High School, Mililani, HI
- Sachin H. Patel, Troy High School, Fullerton, CA

Regional Finalists in the team category were:

- Ivan E. Lopez, Venice High School, Abhimanyu N. Amarnani, Los Angeles Center For Enriched Studies, and Max Cortes, Venice High School, Los Angeles, CA
- Michael M. Lindeborg, Dana Hills High School, Dana Point, CA; Peter Bryan Changala, Northwood High School, Irvine, CA
- Brandon J. Hsu, Monta Vista High School, Cupertino, CA; Pooja H. Rambhia, Jericho Senior High School, Jericho, NY; and Sara Snow, Stella K. Abraham High School for Girls, Hewlett Bay Park, NY
- Alexander H. Wu and Emile M. Young, Troy High School, Fullerton, CA

### **The Siemens Competition**

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

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

**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:** Broll and photos of winners available on request.

###