



MONTGOMERY BLAIR HIGH SCHOOL MAGNET
FOUNDATION INC.



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**Ten Montgomery Blair High School Magnet Students
Honored as Semifinalists in Siemens Competition**

Silver Spring, MD—Ten students from the Montgomery Blair High School Science, Mathematics, and Computer Science Magnet Program were named as semifinalists in the 2015-16 Siemens Competition in Math, Science, and Technology. These students comprise half of the group of Maryland semifinalists, with Blair having more semifinalists than any other school in the state. Also, all but four Maryland Semifinalists hail from Montgomery County Public Schools. This prestigious annual award recognizes remarkable research by high school students nationally in the fields of math, science, and technology. In the Montgomery Blair High School Magnet Program, this work represents the student's senior research project. This is original research completed under the guidance of a mentor, typically at a leading research institution or university. The work usually begins in the student's junior year and continues throughout the summer. Siemens acknowledges semifinalists with a school banner and a gift package. The competition is sponsored by the Siemens Foundation.

The Blair Magnet Siemens semifinalists (with grade level), their research titles, and mentors are as follows:

Karina Chang (12) and **Noah Del Rio Levine** (12) of Potomac, "Extending Coppersmith's Method to Find Roots of Multivariate Modular Polynomials," Dr. Jonathan Katz, Professor, University of Maryland College Park (UMD), Department of Computer Science

Eric Chen (12) of Rockville, "Tumor Suppressor *BRCA1* Prohibits Replication Catastrophe in Response to Replicative Stress during Pregnancy," Dr. Chuxia Deng, Senior Investigator and Chief, Mammalian Genetics Section, National Institute of Diabetes, Digestive and Kidney Diseases, National Institutes of Health

Robert Fleischman (12) of Bethesda, "On k-SAT Solvers and Ramsey-type Numbers," Dr. William Gasarch, Professor, UMD, Department of Computer Science

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Ariel Goldbloom-Helzner (12) of Bethesda, “Evading the Sign Problem Caused by the CP-Violating theta-term in Quantum Chromodynamics,” Dr. Thomas Cohen, Professor and Associate Chair, UMD, Department of Physics

Raymond Lin (12) of Gaithersburg, “T-Reflection in Quantum Mechanics,” Dr. Thomas Cohen, Professor and Associate Chair, UMD, Department of Physics

Josephine Yu (12) of Potomac, “The Mechanical Properties of Bilayer Graphene Through the Frenkel-Kontorova Model: A Study of Phase Transitions and Domain Walls,” Dr. Harsh Mathur, Associate Professor, Case Western Reserve University, Department of Physics

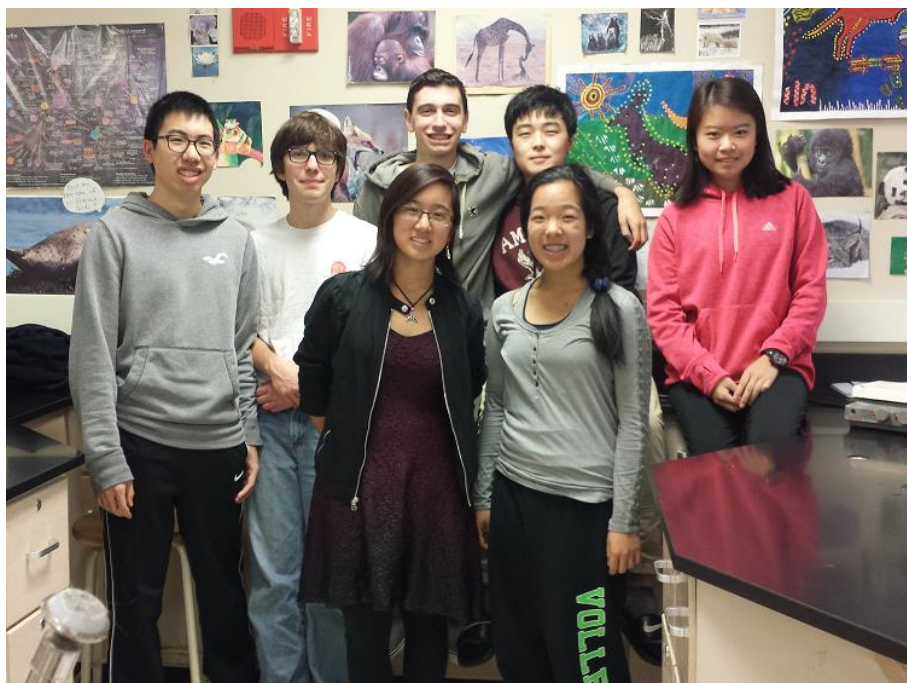
Matthew Yu (12) of Rockville, “New Discoveries in Lucas-Lehmer Inspired Primality Tests,” Dr. Lawrence Washington, Professor and Mathematics Graduate Director, UMD, Department of Mathematics

Ariel Zhang (10) of Potomac with Caroline Leng of Poolesville High School, “Generation of Transparent Nanopaper from Sugarcane Waste,” Dr. Liangbing Hu, Assistant Professor, UMD, Department of Materials Science and Engineering with Dr. Jinsong Tao, Associate Professor, South China University of Technology

Minie Zhang (11) of Rockville, “Manipulation of Toxic Gas Adsorption on Graphene-Like Monolayers,” Dr. Xuan Luo, Principal Scientist, National Graphene Research and Development Center, LLC

Blair Magnet science and research teacher Ms. Angelique Bosse, who oversees the senior research projects, comments on the award recipients, “I was proud of the many senior research project students who worked very hard to complete their research in time to apply to the Siemens Competition. It is exciting that in addition to the eight seniors named as Siemens semifinalists, Minnie and Ariel (a junior and a sophomore, respectively) were also honored for their research project submissions. That a variety of students from various grade levels are conducting good research is a credit to the support our students receive from the Blair Magnet program and the opportunities provided by mentors from outside institutions.”

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Ten Montgomery Blair High School Magnet students were named as Semifinalists in the 2015-2016 Siemens Competition in Math, Science, and Technology: (back row left to right) Raymond Lin, Robert Fleischman, Ariel Goldbloom-Helzner, Eric Chen, Minie Zhang, (front row left to right) Karina Chang, Ariel Zhang, (not pictured) Noah Del Rio Levine, Josephine Yu, and Matthew Yu. (Photo courtesy of Ms. Angelique Bosse)

Ariel Goldbloom-Helzner, Siemens Semifinalist and Blair Magnet senior, expresses his gratitude, “Blair’s Magnet Program gave me the research skills and knowledge necessary to conduct my senior research project, and I appreciate the guidance from Blair Magnet teachers as well as from my research mentor.”

Fellow Siemens Semifinalist and Blair Magnet senior Matthew Yu graciously comments, “I’m really thankful for being named a Semifinalist in the Siemens Competition, and I thank the Blair Magnet program for providing me with the teachers and inspiration I needed to succeed.”

In the 2014-2015 Siemens Competition, Yu was named as a Semifinalist and continued on to earn the title of Regional Finalist. Two years earlier, Neil Davey, a Blair Magnet junior at the time and a 2014 graduate, was a Siemens Competition Regional Finalist and then Winner, and continued on to earn Third Place nationally.

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Blair Magnet senior Matthew Yu was named as a Semifinalist in the Siemens Competition for the second year in a row. Last year, Yu also earned the title of Regional Finalist in this competition. (Photo courtesy of Yu)

About The Montgomery Blair High School Magnet Foundation

This organization was founded by a group of concerned students, teachers, administrators, and alumni in 2008. Its purpose is to promote science, mathematics, and computer science education by supporting the Magnet Program at Montgomery Blair High School in its efforts to develop resources and refine practices needed to provide a rigorous and enriched education for students, staff, and the community at large. The Foundation is incorporated in the state of Maryland and is a 501(c)(3) tax-exempt organization.

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