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Budding Scientists Impress Congress with Their Discoveries

Congressmen call for more money for institutions that support young researchers

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Carol Suh, one of the winners of the Intel Science Talent Search, received a college scholarship for her project. (Science Service)

Washington -- Two high school winners of the Intel Science Talent Search briefed Congress June 6 on their science projects, which in the best tradition of science fairs involve real discovery and potentially important applications.

The two budding scientists, Carol Suh, 18, and Megan Blewett, 17, received college scholarships through a talent search supported by the Intel Corporation, which invests significant sums of money to promote science and technology education. The corporation also awards scholarships through the Intel International Science and Engineering Fair. (See [related article](#).)

The student-scientists visiting Congress had advice on how to motivate more young people to become involved in the sciences, mathematics and engineering: "Give kids good heroes" and provide them with "more exposure at a young age to how much fun science can be."

Suh passed around a device she created - the first microfluidic chip for detecting and analyzing cancer cells. She likened the creation of her device, which works, to baking cookies, except that silicon wafers are underappreciated by ordinary chefs.

To help her audience understand what she had done, Suh, who is from Rancho Palos Verde, California, used the analogy of micropolling to discover which issues are of concern to voters. She said her device analyzes protein interactions in a cell and detects proteins from the most malignant form of brain and spinal cord cancer (glioblastoma).

The device, which Suh developed as a volunteer researcher in the Department of Molecular and Medical Pharmacology at the University of California, Los Angeles (UCLA), could improve the speed, accuracy and reproducibility of cancer diagnostics as well as help physicians determine which treatments would be most effective for a particular patient, according to Intel Science Talent Search. Suh won first place in biochemistry at the California State Science Fair in 2006 before being named a talent-search finalist this year.

Suh said her interest in science blossomed in the eighth grade when she became intrigued by the problem of how to get more juice out of an apple, which led her to study enzymes. She will pursue her interest in creating diagnostic devices for other diseases at Harvard University in Cambridge, Massachusetts.

After Suh's presentation, Dana Rohrabacher, a congressman from California, said, "I hope our society reaches the point that people like you are considered national treasures."



Megan Blewett, one of the winners of the Intel Science Talent Search, received a college scholarship for her project. (Science Service)

When Blewett, from Madison, New Jersey, was in sixth grade, she asked her parents for a neurology textbook and ever since has been researching what causes multiple sclerosis (MS) and amyotrophic lateral sclerosis (ALS), coupling epidemiology and biochemistry. After testing more than 10,800 compounds, Blewett has discovered five that may be candidates for the treatment of MS and ALS.

Her five years of epidemiological work has led her to suspect strongly that MS and ALS are caused by an environmental factor. The prevalence of MS has increased 50 percent since 1982 to epidemic proportions, Blewett reports, and those who suffer from the disease today are female by a ratio of 4-1, compared to a female-to-male ratio of 2-1 just 20 years ago. The incidence of MS and ALS overlaps geographically to a remarkable degree, as she showed with maps she has created. The Broad Institute of Harvard and MIT - where Blewett conducted her research - is using Blewett's work to launch additional studies, according to Intel Science Talent Search.

Blewett said she expects to pursue both a doctorate and a medical degree and to work on a cure for MS and ALS for the rest of her life. She has been accepted at Harvard University.

"All of New Jersey is proud of her," said Representative Russ Holt of New Jersey.

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Both young women said mentors had played important roles in their development as scientists. Blewett suggested more scientists should visit schools to interact with and inspire young people. Suh said there should be more science activities of the sort that help students embrace the adventure of science without intimidating them.

The briefing was held by the Congressional Biomedical Research Caucus and the Joint Steering Committee for Public Policy, a bipartisan group that seeks to increase congressional support for research funding. "We are underinvesting in research, and our future is in jeopardy because of it," said Holt.

Both Blewett and Suh had the opportunity to pursue their ideas at top research institutions under the general supervision of professional scientists. The U.S. government is just one of multiple funding sources for such institutions and the scientists who work in them, but it can play a critical role.

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