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# News Release

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## Teenager Unlocks Potential Pathways for Breast Cancer Treatments, Wins Intel Science Talent Search

### Nithin Tumma of Fort Gratiot, Mich. Wins $100,000 Award from the Intel Foundation

**NEWS HIGHLIGHTS**

- Nithin Tumma, whose research could lead to less toxic and more effective breast cancer treatments, received the top award of $100,000 at the Intel Science Talent Search 2012, a program of Society for Science & the Public.
- Other finalists from across the U.S. took home additional awards totaling $530,000.
- The Intel Science Talent Search, the nation's oldest and most prestigious pre-college science and math competition, recognizes 40 high school seniors who are poised to be the next leaders in innovation and help solve some of the world's greatest challenges.

WASHINGTON, D.C., March 13, 2012 – From medical treatments to alternative energy solutions, innovation has been top of mind in our nation's capital this week. Honoring high school seniors with exceptional promise in math and science, Intel Corporation and Society for Science & the Public (SSP) recognized the winners of the nation's most elite and demanding high school research competition, the Intel Science Talent Search.

Nithin Tumma, 17, of Fort Gratiot, Mich., won the top award of $100,000 from the Intel Foundation for his research, which could lead to more direct, targeted, effective and less toxic breast cancer treatments. He analyzed the molecular mechanisms in cancer cells and found that by inhibiting certain proteins, we may be able to slow the growth of cancer cells and decrease their malignancy. Nithin is first in his class of 332, a varsity tennis player and a volunteer for the Port Huron Museum, where he started a restoration effort for historical and cultural landmarks.

Second place honors and $75,000 went to Andrey Sushko, 17, of Richland, Wash., for his development of a tiny motor, only 7 mm (almost 1/4 inch) in diameter, which uses the surface tension of water to turn its shaft. Born in Russia, Andrey worked from home to create his miniature motor, which could pave the way for other micro-robotic devices. Andrey, a long-time builder of small boats, recently filed for a Guinness World Record for the smallest radio-controlled sailing yacht.

Third place honors and $50,000 went to Mimi Yen, 17, of Brooklyn, N.Y., for her study of evolution and genetics, which focuses on microscopic worms, specifically looking at their sex habits and hermaphrodite tendencies. Mimi believes that through research such as hers, we may better understand the genes that contribute to behavioral variations in humans. Mimi was born in Honduras and is fluent in Cantonese. She plays French horn and volunteers to prepare and deliver meals to people with serious illnesses.

These finalists join the ranks of other notable Science Talent Search alumni who over the past 70 years have gone on to win seven Nobel Prizes, two Fields Medals, four National Medals of Science, 11 MacArthur Foundation Fellowships and even an Academy Award for Best Actress.

“We invest in America’s future when we recognize the innovative achievements of our nation’s brightest young minds,” said Intel President and CEO Paul Otellini. “Hands-on experience with math and science, such as that required of Intel Science Talent Search finalists, encourages young people to think critically, solve problems and understand the world around them. Rather than simply memorizing facts and formulas, or repeating experiments with known outcomes, this competition engages students in an exciting way and provides a deeper level of understanding in such important but challenging subjects.”

Other top honors from the competition include:

**Fourth Place:** Fengning (David) Ding of Albany, Calif. received a $40,000 award for his work on representation theory of Cherednik algebras, a topic in theoretical mathematics that sheds light on deformations of important symmetries, which are related to conservation laws.

**Fifth Place:** Benjamin van Doren of White Plains, N.Y. received a $30,000 award for investigating a poorly understood behavior of nocturnal migratory birds, called morning flight, which has potential implications for the growing wind power industry.

**Sixth Place:** Neel Patel of Geneva, Fla. received a $25,000 award for studying how non-speech patterns of sounds – called sonifications – can convey information, which could lead to a computer-user interface as revolutionary as the graphical interface was 30 years ago.

**Seventh Place:** Anirudh Prabhu of West Lafayette, Ind. received a $25,000 award for his investigation of the odd perfect number problem, and his suggestion that odd perfect numbers do not exist.

**Eighth Place:** Clara Fannjiang of Davis, Calif. received a $20,000 award for developing enhanced radio telescope data collection methods, which may help astronomers see farther into the universe, and generate clearer images and save processing time.

**Ninth Place:** Alissa Zhang of Saratoga, Calif. received a $20,000 award for her approaches to monitoring glucose levels in diabetic patients, which may allow for measuring glucose levels in bodily fluids, such as tears, as opposed to blood.

**Tenth Place:** Jordan Cotler of Northbrook, Ill. received a $20,000 award for inventing a cryptography protocol that permits the detection of eavesdroppers.

In total, the Intel Foundation awarded $1.25 million for the Intel Science Talent Search 2012. When Intel assumed the title sponsorship 14 years ago, it increased the annual awards by more than $1 million to bring greater attention to math and science achievement, encourage more youth to embrace these fields, and further show the impact these subjects have on the country’s future success.

This year's finalists hail from 16 states and represent 39 schools. Of the 1,839 high school seniors who entered the Intel Science Talent Search 2012, 300 were announced as semifinalists in January. Of those, 40 were chosen as finalists and invited to Washington, D.C., to compete for the top 10 awards.

Society for Science & the Public, a nonprofit membership organization dedicated to public engagement in scientific research and education, has owned and administered the Science Talent Search since its inception in 1942.

"The Intel Science Talent Search celebrates the accomplishments of our future top researchers and innovators,” said Society President Elizabeth Marincola. “Society for Science & the Public is proud to join Intel in congratulating Nithin Tumma and all of the Intel Science Talent Search 2012 finalists. Their dedication to science is inspiring, and the quality and depth of their work bodes well for our nation's continued innovation and economic prosperity.”

To learn more about SSP, and its programs and publications, visit www.societyforscience.org, follow SSP on Twitter at www.twitter.com/society4science, or visit SSP's Facebook page at www.facebook.com/societyforscience.

Intel is committed to supporting math and science innovation across all levels of education. The Intel Science Talent Search is just one example of Intel's support of education at the high school level. Tomorrow, at the collegiate level, Otellini will announce STAY WITH IT, a community focused on connecting university engineering students with their peers, experienced engineers, role models and influencers, and motivate them to stay with their specific engineering field of study. The program will launch at Georgia Tech in conjunction with "Day of Engineering." The schedule for this day includes a Facebook Live event at 3 p.m. ET, available at www.facebook.com/engineering; click Tech Talk Live.

To get the latest Intel education news, visit www.intel.com/newsroom/education, and join the conversation on Facebook and Twitter.

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