May 15, 2015

Teen Engineer Invents System to Improve Air Quality on Airplanes

Posted by [IntelPR](#) in [Intel Newsroom](#) on May 15, 2015 8:20:28 AM

Raymond Wang of Canada Wins US$75,000 Top Prize at Intel International Science and Engineering Fair

NEWS HIGHLIGHTS

- The world's largest high school science research competition, the Intel International Science and Engineering Fair, a program of Society for Science & the Public, announced its top winners in Pittsburgh.
- Raymond Wang of Canada received the Gordon E. Moore Award, a US$75,000 prize named in honor of the Intel co-founder and fellow scientist.
- Two Intel Foundation Young Scientist Awards winners – Nicole Ticea of Canada and Karan Jerath of Friendswood, Texas – each received prizes of US$50,000 from the Intel Foundation.

PITTSBURGH, Pa., May 15, 2015 – Raymond Wang, 17, of Canada, is celebrated by his fellow finalists for his first place win at the Intel International Science and Engineering Fair, the world's largest high school science research competition. Approximately 1,700 high schoolers from 78 countries, regions and territories competed for $4 million in awards this week. (PHOTO CREDIT: Intel/Kathy Wolfe)

PITTSBURGH, May 15, 2015 – Raymond Wang, 17, of Canada was awarded first place for engineering a new air inlet system for airplane cabins to improve air quality and curb disease transmission at this year's Intel International Science and Engineering Fair, a program of Society for Science & the Public.

Wang's system improves the availability of fresh air in the cabin by more than 190 percent while reducing pathogen inhalation concentrations by up to 55 times compared to conventional designs, and can be easily and economically incorporated in existing airplanes. Wang received the Gordon E. Moore Award of US$75,000, named in honor of the Intel co-founder and fellow scientist.

Nicole Ticea, 16, of Canada received one of two Intel Foundation Young Scientist Awards of US$50,000 for developing an inexpensive, easy-to-use testing device to combat the high rate of undiagnosed HIV infection in low-income communities. Her disposable, electricity-free device provides results in an hour and should cost less than US$5 to produce. Ticea has already founded her own company, which recently received a US$100,000 grant to continue developing her technology.

Karan Jerath, 18, of Friendswood, Texas, received the other Intel Foundation Young Scientist Award of US$50,000 for refining and testing a novel device that should allow an undersea oil well to rapidly and safely recover following a blowout. Jerath developed a better containment enclosure that separates the natural gas, oil and ocean water; accommodates different water depths, pipe sizes and fluid compositions; and can prevent the formation of potentially clogging methane hydrate.

"Intel believes young people are key to future innovation and that in order to confront the global challenges of tomorrow, we need students from all backgrounds to get involved in science, technology, engineering and math," said Wendy Hawkins, executive director of the Intel Foundation. "We hope these winners will inspire other young people to pursue their interest in these fields and apply their curiosity, creativity and ingenuity to the common good."

This year's Intel International Science and Engineering Fair featured approximately 1,700 young scientists selected from 422 affiliate fairs in more than 75 countries, regions and territories. In addition to the top winners, approximately 600 finalists received awards and prizes for their innovative research, including 20 "Best of Category" winners, who each received a US$5,000 prize. The Intel Foundation also awarded a US$1,000 grant to each winner's school and to the affiliated fair they represent.

The following lists the 20 Best of Category winners, from which the top three were chosen:

Category	First	Last	City	State/Country
Animal Science	Nattapong	Chueasiritaworn	Muang	Thailand
	Thananon	Hiranwanichchakorn		
	Sutthiluk	Rakdee		
Behavioral and Social Sciences	Sophia	Korner	Louisville	Kentucky
	Diya	Mathur		
Biochemistry	Amol	Punjabi	Worchester	Massachusetts
Biomedical and Health Sciences	Nicole	Ticea	Vancouver	Canada
Cellular and Molecular Biology	Demetri	Maxim	Bethel	Maine
Chemistry	Arne	Hensel	Homburg (Efze)	Germany
Computational Biology and Bioinformatics	Michael	Retchin	Richmond	Virginia
	Matthew	Retchin		
Earth and Environmental Sciences	Joshua	Zhou	Chapel Hill	North Carolina
Embedded Systems	Niklas	Fauth	Marbach am Neckar	Germany
Energy: Chemical	Kathy	Liu	Salt Lake City	Utah

Energy: Physical	Sriharshita	Musunuri	Mill Creek	Washington
Engineering Mechanics	Raymond	Wang	Vancouver	Canada
Environmental Engineering	Karan	Jerath	Friendswood	Texas
Materials Science	Catherine	Li	Orlando	Florida
Mathematics	Sanath Kumar	Devalapurkar	Torrance	California
Microbiology	Carly	Crump	Jacksonville	Florida
Physics and Astronomy	Ruochen	Hao	Jinan	China
Plant Sciences	Abdul Jabbar	Alhamood	Dhahran	Saudi Arabia
Robotics and Intelligent Machines	Ava	Lakmazaheri	Alexandria	Virginia
Systems Software	Charles	Noyes	Villa Park	California

Society for Science & the Public, a nonprofit membership organization dedicated to public engagement in science and science education, has owned and administered the competition since its inception in 1950 as the National Science Fair.

"Congratulations to Raymond, Nicole and Karan! Their selection as top winners really demonstrates the extraordinary work they have been able to accomplish at a young age in diverse topics," said Maya Ajmera, president and CEO of Society for Science & the Public. "We look forward to watching not only them, but the rest of the Intel International Science and Engineering Fair finalists as they progress further and pursue their interests in STEM. These talented young students are the problem solvers and innovators of their generation."

The Intel International Science and Engineering Fair honors the world's most promising student scientists, inventors and engineers. Finalists are selected annually from hundreds of affiliated fairs. Their projects are then evaluated onsite by approximately 1,000 judges from nearly every scientific discipline, each with a Ph.D. or the equivalent of six years of related professional experience in one of the scientific disciplines.

A full listing of finalists is available in the event program. The Intel International Science and Engineering Fair 2015 is funded jointly by Intel and the Intel Foundation with additional awards and support from dozens of other corporate, academic, governmental and science-focused organizations. This year, approximately US$4 million was awarded.

To learn more about Society for Science & the Public, visit www.societyforscience.org, and follow the organization on Facebook and Twitter.

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