Teen Scientists Win $1.8 Million at Regeneron Science Talent Search 2019 with Innovative Ideas on Exoplanets, HIV and a Classic Math Problem

March 12, 2019 at 9:56 PM EDT

TARRYTOWN, N.Y. and WASHINGTON, March 12, 2019 /PRNewswire/ --

Top award of $250,000 goes to Ana Humphrey of Virginia in nation's oldest and most prestigious STEM competition for high school seniors

Top ten projects tackle important global issues, such as management of infectious diseases, more efficient air travel, refugee migration patterns and space exploration

Regeneron Pharmaceuticals, Inc. (NASDAQ: **REGN**) and Society for Science & the Public announced that **Ana Humphrey**, 18, of Alexandria, Virginia, won the top award in the Regeneron Science Talent Search, the nation's oldest and most prestigious science and math competition for high school seniors. Forty finalists were honored tonight at the annual Regeneron Science Talent Search awards gala. Regeneron provided awards totaling more than $1.8 million for the finalists, who were evaluated for their research projects, as well as their exceptional scientific and mathematical knowledge, problem-solving abilities and potential as future scientific leaders.

Ana Humphreywon **$250,000** for her mathematical model to determine the possible locations of exoplanets — planets outside our solar system — that may have been missed byNASA's Kepler Space Telescope. Hypotheses in the field say planetary formation creates dynamically packed systems, so Ana used her model to find "unpacked" spaces where as many as 560 new planets might fit and identified 96 locations as primary search targets. Her research could aid our understanding of the formation of planets and inform our search for life in outer space. Ana is **the first Hispanic first-place winner in 20 years**.

Second place and **$175,000** went to **Samuel Weissman**, 17, of Rosemont, Pennsylvania, for his project analyzing the genetic makeup of HIV in two patients on long-term anti-retroviral therapy to understand why they continued to have "reservoirs" of treatment-resistant HIV-infected cells. Sam's research suggests that HIV-infected cells both clonally expand and are killed, therefore forming a reservoir of infected cells, which expands our understanding of HIV and may impact future treatment approaches.

Third place and **$150,000** went to **Adam Ardeishar**, 17, of Alexandria, Virginia, for his project combining a classic previously unsolved math problem called the "coupon collector problem" with extreme value theory. The theory is used to determine the likelihood of a maximal event, such as a 1,000-year flood. By integrating these two concepts, Adam developed a way to calculate the average maximum values of distributional datasets, which could be applied to predicting the expected amount of time for a given number of different randomly-timed events to occur.

"I couldn't be prouder of this year's Regeneron Science Talent Search top winners, who are already leading the way in scientific research and innovation," said Maya Ajmera, President and CEO of Society for Science & the Public, Publisher of *Science News* and 1985 Science Talent Search alum. "Their talent, dedication and desire to make a difference in the world is commendable. Congratulations to Ana, I know her example will inspire other young people to get involved in STEM."

In 2017, Regeneron became the third sponsor of the oldest and most prestigious science and math competition for high school seniors, now known as the Regeneron Science Talent Search following Westinghouse from 1942-1997 and Intel from 1998-2016.

"Congratulations to this year's Regeneron Science Talent Search top winners who embody true scientific and mathematical ingenuity," said George D. Yancopoulos, M.D., Ph.D., Co-Founder, President and Chief Scientific Officer of Regeneron, and a 1976 Science Talent Search top winner. "We are always inspired by the work of these talented young people, and this year's winners have impressed us with their curiosity and desire to improve the world around them. My experience as a winner in the Science Talent Search changed my life and was an important early step on my path to a life devoted to using the power of science to do good. I hope it has the same impact on these young scientists, since now more than ever, we need brilliant minds like theirs to find solutions to our world's most pressing challenges."

Other top honors from the competition include:

Fourth Place: Madeleine Yang of Beverly Hills, Michigan, received a $100,000 award for her work towards a faster and more effective way to manufacture vaccines for influenza, which she hopes one day might help researchers develop a universal vaccine for influenza – an illness that, along with its complications, kills hundreds of thousands of people around the world each year.

Fifth Place: Carolyn Beaumont of McLean, Virginia, received a $90,000 award for her studying of molten rock mixed with hot

water and the resulting effect on the magma's viscosity. Her work may lead to a better understanding of volcanic eruptions.

Sixth Place: Samuel Ferguson of West Windsor, New Jersey, received a $80,000 award for his design of a blended wing body aircraft that is lighter and more fuel efficient than traditional tube and wing airplanes because the entire surface of the airplane, not just the wings, provides lift.

Seventh Place: Brent Perlman of Armonk, New York, received a $70,000 award for his project designing a process to induce photosynthesis in human stem cells, allowing them to produce their own oxygen, by inserting chloroplasts from spinach, which could have implications in the treatment of heart attack, stroke and cancer.

Eighth Place: Rachel Seevers of Lexington, Kentucky, received a $60,000 award for her project developing a Virtual Winglet, which works by ejecting high-speed air at the leading edge of the underside of a plane's wingtip to potentially improve the stability and efficiency of the aircraft.

Ninth Place: Vincent Huang of Plano, Texas, received a $50,000 award for his computer model to better predict refugee migrations on a regional scale and tested his results using data from the 2015-2016 refugee crisis following the civil war in Burundi, Africa.

Tenth Place: Eshika Saxena of Bellevue, Washington, received a $40,000 award for creating a 3D-printed smartphone attachment and artificial intelligence software to automatically identify blood diseases.

The remaining 30 finalists each received $25,000. These students will join the ranks of Science Talent Search alumni who have gone on to receive more than 100 of the world's most esteemed science and math honors, including the Nobel Prize and the National Medal of Science, to start successful biotechnology and technology companies, and to change the world through their groundbreaking inventions. In total, Regeneron awarded $3.1 million in prizes through the Regeneron Science Talent Search 2019, including $2,000 to each of the top 300 scholars and their schools.

About the Regeneron Science Talent Search
The Regeneron Science Talent Search, a program of Society for Science & the Public since 1942, is the nation's oldest and most prestigious science and math competition for high school seniors. Each year, around 2,000 student entrants submit original research in critically important scientific fields of study and are judged by leading experts in their fields. Unique among high school competitions in the U.S. and around the world, the Regeneron Science Talent Search focuses on identifying, inspiring and engaging the nation's most promising young scientists who are creating the ideas that could solve society's most urgent challenges.

In 2017, Regeneron became only the third sponsor of the Science Talent Search, increasing the overall awards distribution to better reward the best and brightest young minds. Through its 10-year, $100 million commitment, Regeneron nearly doubled the overall award distribution to $3.1 million annually, increasing the top award to $250,000 and doubling the awards for the top 300 scholars and their schools to $2,000 each to inspire more young people to engage in science.

Program alumni include recipients of the world's most coveted science and math honors, including 11 National Medals of Science, five Breakthrough Prizes, 18 MacArthur Foundation Fellowships, two Fields Medals and 13 Nobel Prizes.

Learn more at https://student.societyforscience.org/regeneron-sts.

About Society for Science & the Public
Society for Science & the Public is dedicated to the achievement of young scientists in independent research and to public engagement in science. Established in 1921, the Society is a nonprofit whose vision is to promote the understanding and appreciation of science and the vital role it plays in human advancement. Through its world-class competitions, including the Regeneron Science Talent Search, the Intel International Science and Engineering Fair, and the Broadcom MASTERS, and its award-winning magazine, *Science News* and *Science News* for Students, Society for Science & the Public is committed to inform, educate, and inspire. Learn more at www.societyforscience.org and follow us on Facebook, Twitter, Instagram and Snapchat (Society4Science).

About Regeneron
Regeneron (NASDAQ: REGN) is a leading biotechnology company that invents life-transforming medicines for people with serious diseases. Founded and led for 30 years by physician-scientists, our unique ability to repeatedly and consistently translate science into medicine has led to seven FDA-approved treatments and numerous product candidates in development, all of which were homegrown in our laboratories. Our medicines and pipeline are designed to help patients with eye diseases, allergic and inflammatory diseases, cancer, cardiovascular and metabolic diseases, neuromuscular diseases, infectious diseases and rare diseases. We believe that scientists should be the world's heroes and are committed to fostering the next generation of scientific talent through STEM (Science, Technology, Engineering, Math) education efforts. For additional information about the company, please visit www.regeneron.com or follow Regeneron on Twitter and Facebook.

Media Contact at Society for Science & the Public
Gayle Kansagor
Phone: 703-489-1131
gkansagor@societyforscience.org

Media Contact at Regeneron
Ella Campbell
Phone: 914-572-4003
ella.campbell@regeneron.com

View original content:http://www.prnewswire.com/news-releases/teen-scientists-win-1-8-million-at-regeneron-science-talent-search-2019-with-innovative-ideas-on-exoplanets-hiv-and-a-classic-math-problem-300811416.html

SOURCE Regeneron Pharmaceuticals, Inc.