

News Release

Tenaflly Public Schools
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Three Teens Earn Top Spots in Animal Science, Chemistry, and Engineering at Nokia Bell Labs North Jersey Regional Science Fair

Tenaflly Public High School students earn first place honors in annual science competition; including ISEF Grand Prize and first alternate for NJIT Scholarship

For Immediate Release

Tenaflly, NJ – April 28, 2021 – Three Tenaflly High School students came home with top honors from this year’s Nokia Bell Labs North Jersey Regional Science Fair (NJRSF). Juniors Hannah Park and Zoe Zachko and sophomore Kathy Zhang, students in the school’s Science Research class, all placed first in the categories of Animal Science, Chemistry, and Engineering respectively.

Held virtually due to the pandemic, the NJRSF is a high school student science competition in which students present investigative projects, posing and attempting to answer some question or problem, from a number of science and engineering-based categories. The fair accepts entries from ten counties of northern New Jersey: Bergen, Essex, Hunterdon, Middlesex, Morris, Passaic, Somerset, Sussex, Union, and Warren. The award ceremony was held Saturday, March 27, 2021.

Park’s project, *Immunohistochemical Analysis Suggests a Role for Tmem131 in Thymic Epithelial Cell Differentiation*, was one of six ISEF Grand Prize winners. She will advance to the 2021 Regeneron International Science and Engineering Fair (ISEF) virtual competition and receive a \$300 cash award. She was also the recipient of the Human Genetics award, presented by The Human Genetics Institute of New Jersey, Rutgers University, for outstanding projects with relevance and insight to the study of genetics.

“It felt great to get the prize because to me it meant that people found my research meaningful,” said Park who is working at Hackensack University Medical Center lab. “It is one thing to spend hours at the lab bench doing experiments, but another to share it with the people around you.”

Park, who is also a musician, recently received *From the Top’s Jack Kent Cooke Young Artist Award* (<https://fromthetop.org/musician/hannah-park/>). She is a member of the New York Youth Symphony and was concertmaster of the New Jersey All-State Orchestra. Park plans to join the National Youth Orchestra of the United States of America (NYO-USA) in summer 2021.

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Zachko, who was working virtually during the pandemic, completed her entry without a mentor. Her work, *Comparing Cs₂AgBiBr₆, Cs₂SbCuI₆, and KBaTeBiO₆ for Use in Photovoltaic Cells*, was awarded the top spot in Chemistry and was recognized by ASM Materials Education Foundation with the Materials Science Award for an outstanding project in the field of material science.

Zhang was also working from home without mentor and her work, *A Low-cost Autonomous Quadropod that Measures Basic Soil Quality Values in Real Time for Early Preventions of Soil Pollution*, placed first in Engineering. She was also the recipient of the Geoscience award and IEEE NJ Young Engineer award. The Geoscience award is presented to two female students whose projects demonstrate excellence in increasing the public awareness of the geosciences, illustrating the interdisciplinary nature of the geosciences, or promoting the sensitivity to the Earth as a global system. The IEEE NJ Young Engineer Award is sponsored by the IEEE North Jersey Section and recognizes two projects in Engineering, Math, Physics, and Biomedical Engineering that demonstrate the use of sound engineering principles.

All three students received cash prizes for their awards and were invited to publish their findings in the *Journal of Emerging Investigators*, a journal published at Harvard University. The award includes mentoring by graduate students at research universities across the country.

Other Tenafly High School award recipients include juniors William Kaminski, Chaeyoung Lee, and Isabelle Yan. Kaminski received an Honorable Mention certificate and is the first alternate for an NJIT four-year academic \$1000 scholarship awarded to outstanding 11th grade projects in engineering, math, physics, or chemistry. Kaminski submitted his findings on *Performing Bell State Measurements on Two-Qubit States Using Machine Learning*. For her work on *Reducing False Positives in Pulmonary Nodule Detection Using Convolutional Neural Networks*, Lee received The Association for Computing Machinery's one-year student membership to the Association for projects advancing the fields of computer science and computer engineering. Yan received the Innovation Award for her project *Pain Mitigation in an Invertebrate Model: What Behavioral Responses Occur?* presented to four outstanding experimental projects that demonstrate innovative use of affordable and readily available materials to achieve a goal in experimental design normally fulfilled by specialized or expensive equipment.

"All of these students should be commended, not only for their knowledge of the subject areas and performing well, but of doing this work on their own time outside of school hours and during a pandemic," said Tenafly High School principal Jim Morrison. "We are extremely proud of them and what they have already accomplished."

"ISEF is centered on innovations of the youth, so I look forward to meeting brilliant researchers that are around my age," added Park. "I know that I will come out of the competition being inspired."

For more information on Tenafly High School, visit www.tenaflyschools.org.

For a full list of NJRSF awards, visit <https://njrsf.org/>.

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