

## GENERAL SCIENCE

# Top Two of Forty Winners

Robert J. Kolenkow, 17-year-old from Niagara Falls, N. Y., who constructed an electric calculator, won the \$2,800 award. Frederick J. Ernst, Jr., also of New York, won \$2,000.

## See Front Cover

► THE MOST outstanding scientist among the nation's high school seniors is Robert J. Kolenkow, 17, Niagara Falls, N. Y. He was awarded the \$2,800 Westinghouse Grand Science Scholarship at the banquet in Washington, D. C., which climaxed the Tenth Annual Science Talent Search.

The awards of all the scholarships to the 40 top winners were made by Dr. Harlow Shapley, director of the Harvard Observatory and President of Science Service.

Second highest honors, a \$2,000 scholarship, went to Frederick J. Ernst, Jr., 17, a senior at Ardsley (N. Y.) High School. The leader among the girls was Rhea Mendoza, 16, who attends Forest Hills (N. Y.) High School. She received a \$400 scholarship.

Mr. Kolenkow's project—which helped him win top position—was the construction of an electric calculator. It cost about \$40, contained 66 hand-made relays and

can serve as a three-dimensional text book to illustrate how the much more complex "brains" work.

Mr. Ernst wrote a report on "A Relativistic Explanation of Gravitational Acceleration of Falling Bodies near the Earth." It is a mathematical treatise and Mr. Ernst refers his readers to Einstein's Theory of Relativity for the background necessary to understand what he is saying.

The two winners are shown on the front cover of this week's SCIENCE NEWS LETTER, Frederick Ernst on the left and Robert Kolenkow on the right.

Miss Mendoza, an aspiring biologist, investigated the nature of the odor given off by the confused flour beetle.

Seven other \$400 scholarships and 30 \$100 scholarships were also awarded. The 40 young scientists also heard an address by Atomic Energy Commissioner Henry D. Smyth.

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# Winners of Scholarships

**GRAND SCHOLARSHIP OF \$2,800**  
Kolenkow, Robert John, Niagara Falls, N. Y.

**\$2,000 SCHOLARSHIP AND ALTERNATE TO \$2,800**  
Ernst, Frederick Joseph, Jr., Ardsley, N. Y.

**ALTERNATE FOR \$2,000**  
Simpson, Robert Edmund, Kenmore, N. Y.

**SCHOLARSHIPS OF \$400**  
Berkelman, Karl, Lewiston, Maine  
Chester, Conrad Vences, Roslyn Heights, N. Y.  
Mendoza, Rhea, Forest Hills, N. Y.  
Schneider, Peter Bernard, New York, N. Y.  
Simpson, Robert Edmund, Kenmore, N. Y.  
Spangler, Robert Alan, Celina, Ohio  
Thomson, Richard Mansfield, Delmar, N. Y.  
Wheeler, Nicholas Allan, The Dalles, Oreg.

**ALTERNATES**  
1st alt. Sibia, John Talbot, Newark, N. J.  
2nd alt. Drauglis, Edmund, Philadelphia, Pa.  
3rd alt. Feldstein, Robert Schmidt, New York, N. Y.

**SCHOLARSHIPS OF \$100**  
Botkin, Dorothy Ann, Croton-on-Hudson, N. Y.  
Braverman, Paul Maxim, Brooklyn, N. Y.

Brush, Stephen George, Orono, Maine  
Butler, James Newton, Lakewood, Ohio  
Chambers, Derrell Lynn, Paso Robles, Calif.  
Cowan, James Jones, III, Maryville, Tenn.  
Cummisford, Patricia Diane, Arlington Heights, Ill.

De Decker, Carol Lynne, Independence, Calif.  
Demkovich, John Joseph, Jr., New Brunswick, N. J.

Dennison, John Manley, Keyser, W. Va.  
Drauglis, Edmund, Philadelphia, Pa.  
Earle, William Edward, East Bridgewater, Mass.  
Feldstein, Robert Schmidt, New York, N. Y.

Frolen, Lois Jean, Eugene, Oreg.  
Gingrich, Cynthia Louise, Lebanon, Pa.  
Janousek, Lucile Frances, Gypsum, Kans.  
Johnson, Donald Bruce, El Cerrito, Calif.  
Larson, David Clarence, Cloquet, Minn.  
Lyser, Katherine May, Lafayette, Calif.  
McColm, Douglas Woodruff, Andover, Mass.  
Martin, Mary Helen, Hyattsville, Md.  
Norris, Daniel Howard, Sylvania, Ohio

Novotny, Eva, Forest Hills, N. Y.  
Rosen, Robert, New York, N. Y.  
Shteir, Owen Aaron, Princeton, N. J.  
Sibia, John Talbot, Newark, N. J.  
Sieffert, Paul Louis, Pittsburgh, Pa.  
Spencer, Dana Royce, Arlington, Mass.  
Stewart, James Buchanan, Harrison, N. Y.  
Wharton, Lennard, Exeter, N. H.

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**SCENES FROM TALENT INSTITUTE**—Top left, ten top winners pictured with Dr. Henry De Wolf Smyth and Dr. Harlow Shapley; top right, the two highest winners being congratulated by Dr. Smyth and Dr. Gwilym A. Price, president, Westinghouse Electric Corp.; 3, Dr. Selman A. Waksman addressing the Institute; 4, Dr. John W. Coltman, demonstrating fluoroscopic X-ray work to the group; 5, Dr. Dean Cowie shows a group of the winners the Carnegie Institution atom smasher; 6, Dr. E. U. Condon, director, National Bureau of Standards, talks with some of the winners; 7, Dr. Norman H. Topping and Dr. Dean Burk, National Institutes of Health, discuss public health problems with the winners; 8, Watson Davis welcomes a group of winners.

## ENGINEERING

## Full-Size Mines Tested in Laboratory

► FULL size mines can now be tested at the Naval Ordnance Laboratory, White Oak, Md., in a giant temperature chamber to check effects on working parts of extreme temperature changes when the mine is dropped from airplanes at high altitude into the ocean.

This new chamber, just completed, has already been used for one test, it was revealed. It is made of stainless steel, and is 30 feet long, eight feet wide and eight feet high. Temperatures within it can be changed from 200 degrees Fahrenheit to 100 degrees below zero. Humidity can be controlled. The chamber is equipped with six compressors and ten pumps.

It has a small door on one side through which men can enter to examine a mine. In the test made, the mine was at an extreme low temperature. After a check-up, a huge door at one end was opened and warm air rushed in. Then the mine was ready to roll out and be plunged into a nearby sea-water tank.

The procedure simulates what happens to a mine when dropped from high altitudes into the sea. At a high altitude the war-weapon is subjected to a low temperature. Passing through the atmosphere on its way to the ocean, it becomes subjected to heat. The sudden plunge into the sea cools it rapidly.

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## ● RADIO

Saturday, March 24, 1951, 3:15-3:30 p.m., EST  
"Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Brigadier General Leslie E. Simon, General in Charge of Ordnance Research, U. S. Army, and member on Research and Development Board, Ordnance Committee, will discuss "Recoilless Weapons."