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TWENTIETH ANNIVERSARY OF THE TENNESSEE SCIENCE TALENT SEARCH

JAMES L. MAJOR, *Clarksville High School, Clarksville, Tennessee*
and
JAMES B. DELANO, *ARO, Inc., at Arnold Engineering Developing Center, Tullahoma, Tennessee*

THE TENNESSEE JUNIOR ACADEMY OF SCIENCE TWENTY-SECOND YEAR

RICHARD L. WILSON, *Department of Geology and Geography, University of Chattanooga, Chattanooga, Tennessee*

THE TENNESSEE SCIENCE TALENT SEARCH

When the Tennessee Academy of Science meets in November, its Science Talent Search program will be twenty years old. Plans are being made for a special Anniversary Program to be held at Oak Ridge next spring. For the past five years, the Academy, the Union Carbide Corporation and the Oak Ridge Institute of Nuclear Studies have honored the winners of the Talent Search. The program next spring will highlight the twentieth anniversary of this Academy Youth Program.

Credit for starting the Search for young scientists is due to Dr. Hanor Webb, Professor Emeritus of George Peabody College, Nashville, Tennessee, who has been closely associated with the Academy since its beginning. As its president, he realized the need for encouraging young people of ability and dedication to enter the ranks of scientists. Over the years the program he initiated has expanded until the number of winners for each of the last two years has exceeded thirty. A recent survey shows that of the 36 winners in 1963, 35 are now attending institutions of higher learning. The one not in attendance is in the armed service and plans to enter college upon completion of service requirements. The distribution of the 1963 winners is as follows: Cornell University, 1; Davidson College, 1; Duke University, 3; Emory University, 1; King College, 1; M.I.T., 3; Memphis State University, 2; Miami University, 1; New Mexico Tech., 1; Notre Dame, 2; Ohis State University, 1; Princeton, 1; Rice, 1; Southwestern at Memphis, 2; University of Chattanooga, 1; University of Kentucky, 1; University of Pennsylvania, 1; University of Tennessee, 5; University of Tennessee at Martin, 1; Vanderbilt, 4; West Point, 1; U. S. Army, 1.

Data received recently from 13 groups of winners (1946-1958) show that 35 students have earned either the Ph.D. or M.D. degree. The number of such degrees granted to members of the winning groups of these years is: 1946, 2; 1947, 1; 1948, 1; 1949, 5; 1950, 5; 1951, 1; 1952, 2; 1953, 5; 1954, 5; 1955, 4; 1956, 2; 1957, 1; 1958, 1.

THE JUNIOR ACADEMY OF SCIENCE

The Junior Academy of Science, also a project of the Tennessee Academy of Science, likewise has enjoyed continuous growth during its twenty-two years of existence. In 1963-64 the Junior Academy enlarged its coverage from 11 to 12 regions: Anderson, Campbell, Morgan, and Roane counties now comprise the Oak Ridge region. Last February more than 600 students attended the Regional Science Day programs held throughout the state.

Representatives from each region were selected to participate in the State Science Day program held at the University of Chattanooga. Over 300 students and teachers attended the meeting in Chattanooga where Dr. Maurice Rawlings, a local physician, gave an interesting lecture on "Methods of Resuscitation." Mr. Larry D. Flatt of Central High School, Columbia, won the top award for the day with his paper entitled "Seeing with Sound." Mr. Flatt is now eligible to represent the Tennessee Junior Academy at the December meeting of the American Association for the Advancement of Science to be held in Montreal, Quebec.

In the preparation of projects, students are taught and urged to use scientific methods, and those who are successful in turning out good science projects usually follow the methods which have proved satisfactory to the professional scientist.

1964 TALENTED SCIENCE STUDENTS

Below is the list of talented science students, listed by cities. In each case the student's name and the title of his science project are listed first, then the teacher's name and the school. An asterisk (*) indicates that the student received recognition also in the National Science Talent Search competition; (TJAS) indicates the student was a winner also in the State Science Day competition; all other students were winners in the State Science Talent Search. Fig. 1 pictures the students and their sponsors who attended the Tennessee Junior Science Day Program at Oak Ridge, April 17, 1964.

Chattanooga

ELLIS SUTTON BACON, Freezing of Solutions on a Mercury Surface; J. L. Rodgers, Tyner High.
LARRY DAVIS CLAXTON, The Principles of Cataphoresis; W. David Williams, Red Bank High.
ARTHUR JOSEPH VON WERSSOWETZ, Bacteriological Analysis of Water; Sister Hyacinth, Notre Dame High.
RICHARD WALTER ZELINSKI, Effect of Electric Current Flow Through Gases; Sister Hyacinth, Notre Dame High.

Fig. 1. From Left to Right: Row 1—Mrs. Patricia Goddard, Richard Zelinski, Arthur von Werssowetz, Donald Ray McClure, Robert Deupree, L. Rodney Goke, Frances Shurcliff, Richard Weinberg, Brian Delano, Kirk Holland, Larry Matthews, Otto H. Bock, James L. Major. Row 2—Charles Miller, Catherine Flatt, Raymond Medley, Ray Rawls, Jr., Georg Bock, Larry Flatt, David Spray, Cheryl Huff, John Gale, Dallas Jones, Harry McDonald. Row 3—Jere Warner, Robert Bowers, Jerry Sparger, John Pansock, Lee Ruch, George Yates, Rajne Mirchandani, Bill Titus, Ronnie Rice, Tommy Hancock, Joseph Butt. Row 4—Larry Shell, Joe White, W. David Williams, H. M. Sartelle, Larry D. Claxton, Don Peterson, Swinton Roof, Marvin Austin, Steve Sanford, Darrell Kennedy, James Delano.

Clarksville

MARVIN F. AUSTIN, The Determination of Avogadro's Number; Ruth Rice, Clarksville High.

THOMAS H. HANCOCK, The Effect of Temperature on the Viscosity of Liquids; Ruth Rice, Clarksville High.

JOHN DARRELL KENNEDY, Some Properties of Education Vector Spaces; Ruth Rice, Clarksville High.

RONNIE NEAL RICE, The Scientific Investigations of Benjamin Franklin, Ruth Rice, Clarksville High.

CHARLES STEPHEN SANFORD, Einstein's Theory of Relativity; Ruth Rice, Clarksville High.

WILLIAM P. TITUS, A Study of the Electrical Output of the Silicon Solar Cell; Ruth Rice, Clarksville High.

Columbia

LARRY D. FLATT, Seeing with Sound; Charles O'Bryan, Central High (TJAS Grand Prize Award).

Dandridge

JOSEPH EDWARD BUTT, Spectroscopy; A. Henry Swann, Maury High.

Elizabethton

ROBERT WESLEY BOWERS, Fractionation of Gasoline; Mrs. Lynn Goddard, Elizabethton High.

LARRY EUGENE SHELL, Electrophoresis; John A. Pansock, Elizabethton High.

JERRY RICHARD SPARGER, Research on Sulfur; John A. Pansock, Elizabethton High.

JOE WALLACE WHITE, Building a Piezoelectric Clock; Mrs. Lynn Goddard, Elizabethton High.

Kingsport

MARK HOOVER, Production of Aluminum from Silicate Minerals, Charles Dickerson, Dobyns-Bennett High (TJAS).

Knoxville

ROBERT GASTON DEUPREE, Development and Application of a Procedure for The Discovery of Comets; Lula Mae Shipe, Central High.

Memphis

LOUIS RODNEY GOKE, Photoelectronic Automobile Control System; Joe G. Phillips, Overton High.

BARTON LUTHER MCGHEE, The Mutagenic Effect of X-Irradiation of Striptomyces Griseus and the Antibiotic Produced; Frances B. Wild, White Station High.

PATRICIA C. MURPHY, Photonematological Studies; Sister James Cecilia, Sacred Heart High (TJAS).

SWINTON *A*. ROOF, Spectroscopic Studies With The Michelson Interferometer; Joe F. Summers, Oakhaven High.

Murfreesboro

CHARLES B. MILLER, A Mach 5 Wind Tunnel; Jere Warner, Central High.

Nashville

*WALTER FOX HOLLAND, Bacteriostatic Effect of Basic Aniline Dyes of Lactobacilli; Jacquelyn Turner, Hillsboro High.

DALLAS JACKSON JONES, On Cracking the Prime Number Mystery; Raymond Medley, Hillsboro High.

LARRY EDWIN MATTHEWS, A Study of the Origin of Saltpeter in Middle Tennessee Counties; Jacquelyn Turner, Hillsboro High.

Oak Ridge

CHERRYL SUZANNE HUFF, The Reversal of Light and Shadow Cues Involved in Visual Space Perception and its Effect Upon Learning in the Mouse; Sherman D. Sheppard, Oak Ridge High.

DONALD ERIC PETERSON, Probability of Cuboctahedron Dice; Sherman D. Sheppard, Oak Ridge High.

LEE MOYER RUCH, A Study of the Generation, General Properties and Practical Application of the Cardioid; Mrs. Mary Laycock, Oak Ridge High. (TJAS)

DAVID CONOVER SPRAY, Effects of Punishment and Drugs on Conditioned Neuroses in Mice: Angie M. Perry, Oak Ridge High.

RICHARD JACOB WEINBERG, A Device for Measuring Suggestibility; Mrs. Mary Laycock, Oak Ridge High.

GEORGE ANDERSON YATES, A Study of the Binary Variable Star System Angol; Sherman D. Sheppard, Oak Ridge High.

Pikeville

DONNIE WHEELER, The Effects of Tobacco on Albino Rats; Mrs. Thelma Boynton, Blidsol County High (TJAS).

Tullahoma

HANS-GEORGE OTTO BOCK, Electronic Binomial Computer; James R. Kemp, Tullahoma High.

BRIAN JAMES DELANO, Space Vehicle Attitude Control; James R. Kemp, Tullahoma High.

JOHN GODDARD GALE, Effect of Gravities on Growing Plants; James R. Kemp, Tullahoma High.

DONALD RAY MCCLURE, Ion-Exchange Membrane Fuel Cell; James R. Kemp, Tullahoma High.

CHARLES RAYMOND RAWLS, Experimental Verification of $M_v = m_o/\sqrt{1-V^2/c^2}$; Harry McDonald, Tullahoma High.

FRANCES MARGARET SHURCLIFF, Frustrative Nonreward in the Laboratory Mouse; James R. Kemp, Tullahoma High.

The Junior Academy lists also the following state Science Day Winners from the Junior Division:

Kingsport

CLAIRE STRINGER, Effects of Thorazine on Guinea Pigs; Ross Robinson Junior High School.

Memphis

MICHAEL GOMPERTZ, Magic Squares, Polygons, and Cubes; White Station Junior High School.

MAURY PASTERNACK, Growth Inhibiting Effects of Streptomycin and 3-AT; White Station Junior High School.

Signal Mountain

DIANE EDNEY, Inexpensive Chemical Detectors, Signal Mountain Junior High School.

Trenton

MARY ANN JETTON, Experiments in Communications; Peabody High School.

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NEWS OF TENNESSEE SCIENCE

(Continued from Page 136)

Dr. Robert L. Amy, Professor of Biology at Southwestern at Memphis, has received a Special Research Fellowship from the United States Public Health Service, National Institute of Health, for a period of one year. Dr. Amy will be a visiting investigator at the Centre National de Transfusion Sanguine in Paris, working with Dr. Marcel Bessis. Their research will center around the use of ultraviolet and ruby laser microbeams. These instruments will be used in continuing studies that Dr. Amy has been involved in for the last few years on the effects of radiation on embryonic development.

Outstanding college science students now beginning their junior year have the opportunity to participate in research at Oak Ridge, Tenn., during the summer of 1965, under a special Atomic Energy Commission program. The Summer Student Trainee program, administered for the Commission by the Oak Ridge Institute of Nuclear Studies, offers temporary summer appointments, on a competitive basis, to a limited number of college juniors majoring in the sciences and who will be seniors in the school year 1965-66. The program is for students from small colleges, primarily in the Southern region, who posses the potential for a successful career in science. Appointees will be assigned mainly to Oak Ridge National Laboratory, with a few others assigned to the University of Tennessee-AEC Agricultural Research Laboratory and the Oak Ridge Institute of Nuclear Studies. Applicants must be United States citizens.

The purpose of the program is to provide opportunities for college undergraduates to develop a better comprehension and apprciation of research methods. To accomplish this, the students, under the guidance of research scientists, will engage in activities pertaining to research. The program is designed to encourage the student to carry on graduate work after receiving his bachelor's degree.

Successful applicants will receive a stipend of $75 a week and a travel allowance during the appointment period. Appointments will be made about March 1, 1965, and will be for an approximate ten-week period beginning about June 15.

Further information and application forms are available from Summer Student Trainee Program, University Relations Division, Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn. 37831. Deadline for filing applications is January 15, 1965.

Dr. Charles W. Keenan, University of Tennessee chemistry professor, will conduct further research in the field of history and the philosophy of science at Cambridge University, England, during the 1964-65 academic year. Under his second National Science Foundation faculty fellowship, Dr. Keenan will study the ways which the scientific methods of attacking problems may differ from other methods. He also studied at Cambridge in 1957-58 as a NSF fellow. As a result of Dr. Keenan's research, he is now teaching a course at UT in the philosophy of science. "There is a growing interest in the history and philosophy of science at universities in many countries," said Dr. Keenan. "In the United States, there are vigorous programs at Harvard, Princeton, Columbia, and the Universities of Minnesota, California, and Indiana."

Dr. Keenan pointed out that in studying the philosophy of science as a history of ideas, one finds that many scientific discoveries have influenced man's philosophical notions "However, the work of many of the greatest scientists—Newton, Einstein, and Heisenberg—have been guided and inspired by their deep understanding of philosophy," he said. Dr. Keenan will assume his teaching duties at UT after completing his study at Cambridge in August, 1965.

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