

GENERAL SCIENCE

STS 25th Anniversary

► **HIGH SCHOOL SENIORS** now, like those of the past 24 years, putting the finishing touches on research projects, are being invited through their school officials to enter competition for \$34,250 in scholarships and awards to be presented in the 25th annual Science Talent Search.

The world of science has changed our lives markedly during the last 25 years, and former Science Talent Search winners have contributed to that change very significantly. The record of the past assures us that the students selected this year, too, will certainly make their mark.

Invitations to participate in the Science Talent Search for prospective research scientists now in their senior year are being sent to some 60,000 principals and science teachers of private, parochial and public high schools throughout the 50 states and the District of Columbia.

Rules, instructions and examination materials will be mailed in November to school officials requesting them. The test is administered locally, and completed entries must reach **SCIENCE SERVICE**, Washington, D.C., by midnight, Dec. 27.

Selection based on a two-hour science aptitude examination, personal data, high school scholastic records and a report on the student's scientific project will determine

the members of an Honors Group, consisting of the top 10% of fully qualified entrants.

Further intense judging will determine 40 winners who will receive an expense-paid trip to Washington, and will share in the Westinghouse Science Scholarships and Awards.

More than \$5 million in other scholarships and financial aid have gone to past Science Talent Search winners and Honors Group members as a direct result of their placing in the Search. Unlike many scholastic competitions, the Search does not prohibit winners from accepting other scholarships.

State Science Talent Searches held in 42 states and the District of Columbia in conjunction with the national Search offer considerable additional benefits to the participants in the states involved.

Interested seniors should contact their science teachers early to assure that materials will be requested for them.

The Science Talent Search is administered by **SCIENCE SERVICE** through its Science Clubs of America, is supported by the Westinghouse Educational Foundation of the Westinghouse Electric Corporation, and is approved by the National Association of Secondary School Principals.

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INVENTION

Current U.S. Patents

► **TWO PATENTS** looking toward space travel of the future were granted by the U.S. Patent Office.

One of them holds great promise for obtaining the large amounts of power that would be needed by an orbiting space station from which men could build or repair lunar or interplanetary probes. The system would give tremendous amounts of power not available by any of the methods now under development without using about ten times the weight.

Robert J. Schwinghamer of Huntsville, Ala., told **SCIENCE SERVICE** that the power package he devised could be used only when it was integrated into the design of the entire payload. He assigned rights to patent 3,204,889 to the Government through the National Aeronautics and Space Administration.

Another basic space-oriented patent was awarded to Dr. Leslie G. Smith of G.C.A. Corporation, Bedford, Mass., who assigned rights to patent 3,205,381 to NASA.

Mr. Smith's idea makes use of the energy of charged particles in earth's outer atmosphere, the ionosphere, to obtain electrical power to operate such satellites as an active repeater communications station.

Not quite so far in the future but also space-oriented are useful applications for the two patents granted to Dr. Donald E. Anderson of the University of Minnesota. Rights to patents 3,205,413 and 3,205,461

were assigned to The Regents of the University of Minnesota.

Both patents are basic to the development of high magnetic fields using thin films, Dr. Anderson said. One covers solenoids made from thin films having the lowest possible amount of superconducting material. The other concerns a magnetic energy accumulator.

An apparatus for grading live fish while they are still very small earned patent 3,204,605 for Paul E. Vroman of Philomath, Ore., who assigned rights to the Government through the Secretary of the Interior. Separating fish into different size groups when they are quite young promotes more uniform growth when they are confined in tanks or ponds, prevents cannibalism and improves feeding efficiency.

An infrared detecting system that uses a Raman scattering medium was awarded patent 3,204,105. Wesley A. Robinson, El Segundo, Calif., assigned patent rights to Thompson Ramo Wooldridge Inc., Cleveland, Ohio.

For persons who are still dancing the twist in preference to such "camp" dances as the monkey, swim, frug, pony, hitchhiker, jerk or shampoo, Claude H. Latson of Fort Worth, Texas, has invented a "swivel foot-supporting platform." The device, patent 3,204,348, uses ball bearings to give the wearer the proper twisting motion.

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Smithsonian Celebrates Founder's 200th Birthday

► **THE OPENING CEREMONIES** of the 200th anniversary of the birth of James Smithson, whose generous bequest founded the Smithsonian Institution, was marked by a colorful pageant Sept. 16.

A brilliantly robed academic procession of some 500 world scholars and scientists marched from the widely known tourist center, the famed red Smithsonian "castle," across the Washington Mall to a site near the Museum of Natural History. After the procession, President Lyndon B. Johnson outlined a far-reaching program to export the "Great Society" to all the people of the world. The text of his speech appears on the next page.

After Chief Justice Earl Warren addressed the delegates, Dr. Leonard Carmichael presented the highlights in the life of James Smithson to the more than 1,000 persons attending. Dr. Carmichael is the immediate past Secretary of the Smithsonian Institution, the post now held by Dr. S. Dillon Ripley.

Three years before he died in 1829, James Smithson wrote his now-famous will bequeathing an estate of somewhat more than a half million dollars "to the United States of America to found at Washington under the name of the Smithsonian Institution an establishment for the increase and diffusion of knowledge among men."

His legacy now comprises 12 units, including the U.S. National Museum, the National Zoological Park, the National Gallery of Art and the John F. Kennedy Center for the Performing Arts, all in Washington, D.C., as well as the Smithsonian Astrophysical Observatory in Cambridge, Mass., and the Canal Zone Biological Area.

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Great Discoveries Seen In Future for Mankind

► **GREAT DISCOVERIES** were foreseen in the future for mankind by Dr. J. Robert Oppenheimer, director of the Institute for Advanced Study, Princeton, N.J., speaking at the Smithsonian celebration.

They could result from an understanding of the world of fundamental particles, submicroscopic and generally extremely short-lived inhabitants of the atom's core. They could also come from understanding how the recently discovered celestial objects called quasars maintain their tremendously high outpourings of energy, equal to many millions of suns.

Dr. Oppenheimer said that physics in the 20th century has greatly accelerated technological advances, and has greatly altered the nature of warfare and the problems of living with weapons. He noted that this has raised the question of whether mankind can manage to remove inequalities between peoples and "bring harmony" to all despite their vastly different histories.

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