GENERAL SCIENCE

It Is Science Fair Time

➤ Nearly 400 of the most effective and exciting science experiments out of this year's approximately million student-made science fair projects are enroute to Seattle to be shown in the 13th National Science Fair-International to be held under the auspices of SCIENCE SERVICE May 2-5.

The exhibits are in all fields of science, from astronomy to zoology. Not more than two finalists from each of 208 regional fairs can go to Seattle to exhibit alongside the World's Fair displays.

When worm eats worm, the exhibit to be shown by Ruth Ann Ziegler, 17, asks "Is Knowledge Edible?" It shows that what the consumed worms may have learned will make it easier to "condition" the cannibal worms. Ruth is the winner of the Northern Virginia Science Fair.

Janet Stauffer, 16, finalist from the Kansas Wesleyan University Science Fair, Salina, Kans., excavated previously undiscovered Indian mounds, determined sex through bone study, and reconstructed tribal customs and habits.

Phil Schierer, 16, Centenary Science Fair, Shreveport, La., finalist, wants his National Science Fair medal engraved with "K5MUV" following his name. Phil's project consists of building and conducting research with a self-designed amateur television station which can carry on two-way audio and visual communications over the air with other amateur TV stations. His purpose was to overcome previously established barriers in ham TV.

By showing the relationship existing between the abundance of various forms of fossil sponge spicules (skeletons of a sponge) and the presence of turbulence in the environment of the sponges, a South Bend, Ind., high school senior, Christoph Oliver Seeler, 17, provides a new research tool for the paleontologist. Seeler was born in Wiesbaden, Germany, and came to the U. S. in 1949. His entry is from the Northern Indiana Science Fair, North Manchester, Ind.

Sharon Lee Fulger, 18, Susquehanna Valley Science Fair finalist from Mill Hall, Pa., found that streptomycin greatly inhibits chlorophyll formation, reduces leaf expansion, stem and root rot, and reduces the percentage of germination.

The fruit industry will be interested in the project of Wanda Hakel, 17, of the Western Colorado Science Fair, Grand Junction. She grew molds on treated and untreated paper pointing a way to combat fruit damage.

A Frederick, Md., high school senior, 18-year-old Edwin Nikirk, finalist from the Frederick County Science Fair, designed a device to serve as a missile guidance system in space, a triggering device for a camera to take moon pictures and a direction finding system in space, using the sun as a guide. Light-sensitive elements on the missile surface enable the missile to serve these three functions.

Evelyn Burkhart, 16, winner of the Southern Appalachian Science Fair, Knoxville, Tenn., determined that average or top level sixth grade students with only standard arithmetic background are able to learn algebra with only slight modification of the present ninth grade presentation.

A Phoenix girl, Leslie Wildesen, 17, finalist with an exhibit from the Central Arizona Regional Science Fair, found that by passing a light through a photographic developer and onto a photoelectric cell connected to a meter, variations in readings would determine the exhaustion of the developer more accurately than by visual methods now in use.

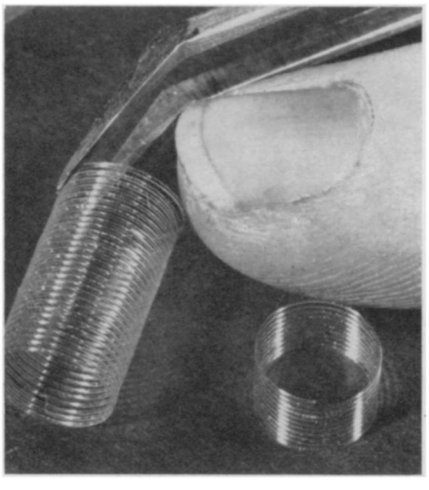
Harold Allen Burgess, 18-year-old Pampa High School senior who represents the Texas Panhandle Science Fair held in Amarillo, has proved a direct relationship between the velocity of sound in a liquid and the density of that liquid.

Stephen Drew, 15, a finalist from the Greater Anchorage Science Fair, Anchorage, Alaska, shows that it is possible to use light as a carrier for communication and his exhibit demonstrates its use for messages in space.

Danny J. Cassidy, 16, finalist from the Central Oklahoma Science Fair, in Edmond, has an exhibit showing an original method of inflating auricles of reptilian, amphibian or mammalian hearts, using a modified type of electrical pacemaker.

Bill M. Murley, 17, who won at the Northeastern Tri-State Science Fair, Angola, Ind., has an exhibit related to a vaccine made by irradiating neoplasmic tissue.

Richard Lee Falwell, 17, finalist from the Montgomery County, Md., Science Fair, shows in his exhibit that heat from the sun affects the life span of clouds in the atmosphere of Jupiter and Saturn. Results of 500 observations show that persistence of the clouds is less with higher radiation temperature of the atmosphere.



CAN WEIGH BACTERIA—Coiled springs made from quartz by engineers at Lockheed Missiles & Space Company, Sunnyvale, Calif., are capable of such fine measurements as the gain in weight of feeding bacteria.

Judy Richard, 15, Northeastern Oklahoma Science Fair winner from Miami, Okla., presents her studies that show both tongue-rolling and tasting are dominant hereditary traits.

Trutz Foelsche, Jr., 18, winner at the Tidewater Science Congress, held at Newport News, Va., demonstrates that hexadecanol has the property of forming a one-molecule-thick layer on water which retards evaporation. Effects of heat, wind conditions and humidity on the effectiveness of hexadecanol were determined, as was the effective amount of hexadecanol and the reaction of hexadecanol with actual organic and inorganic matter in the water.

Linda Beatrice Holk, 18, representing the Mobile, Ala., Science Fair has a project on antibiotics made from molds not usually possessing antibiotic tendencies. The mutation causing this is attributed to violent changes in temperature, humidity and media.

Robert Burns Dunkin, 17, finalist from the Rio Grande Valley Science Fair, Harlingen, Texas, presents a procedure for controlling photographic printing using small densitometers, so semi-skilled workers can do the work for commercial photographers.

A frog will not necessarily strike at food, but will strike at any generally similar object, Kenneth B. Lyons, 15, finalist from the Southern Nevada Science Fair, contends in his exhibit. He found that the frog's eye signals the brain only when an object of the proper size enters the field. Therefore, a large amount of processing is done at the retinal level. He supports this interpretation by means of an artificial neuron.

Gerald Jordan, 17, Trans-Pecos Science Fair finalist from El Paso, Texas, has an exhibit showing a test tank raceway through which water can be made to run at varying rates of speed. Hull types were tested at various speeds.

Leonard S. Joeris, Jr., 16, of Ann Arbor, Mich., finalist from the Southeastern Michigan Science Fair, has built a bubble chamber and claims his original design reduces the cost of this physics instrument in conventional form.

• Science News Letter, 81:270 April 28, 1962

Questions

PHYSICS—At what temperature does molybdenum become a superconductor? p. 264.

PUBLIC HEALTH—How large was the average drop in cholesterol level in a group subjected to special exercises? p. 259.

SPACE—What was the record altitude achieved by the X-15? p. 261.

Photographs: **Cover, U. S. Department of Commerce Weather Bureau; p. 259, New York University; p. 261, National Aeronautics and Space Administration; p. 262, British Museum; p. 263, The National Foundation—March of Dimes; p. 270, Lockheed Missiles & Space Company; p. 272, American Standard.**