
Youthful dedication pays off

The history of scientific discovery is known to be fraught with the improbable, but how many breakthroughs have been the result of a joke? Nanda Victorine Duhé of Cypress, Tex., took seriously a joking challenge from her father to find an antidote to his poison ivy allergy; as a result, Duhé found two compounds that will detoxify urushiol (the irritant in poison ivy) for up to six hours.

The enterprising 18-year-old student was among the forty chosen as winners in the 38th annual Science Talent Search. The 10 girls and 30 boys honored were chosen from among 980 completely qualified contestants. In March they will go to Washington to attend a five-day Science Talent Institute, which will include a display of their work at the National Academy of Sciences. In this final phase of the Science Talent Search the winners will be judged again and \$89,500 in Westinghouse Science Scholarships and Awards will be distributed.

The willingness to rise to a challenge that Duhé exhibited is evident in the other winners as well: A student from New Jersey who realized that his project in advanced number theory would require that he learn modular arithmetic undertook the study of it rather than give up on the project. Another student spent two and a half years familiarizing himself with quantum mechanics and applied mathematics for his project, which included developing a model for representing impurities in the subatomic structures of glass; another taught himself a new computer language. Several students set up labs in their homes to work on their projects, and one student ordered sea urchins from all over the world for his project, which examined their skeletal development from pluteus to adult.

Although virtually all have expressed an interest in pursuing a career in some field of science, their interests are not limited to science but include such diverse fields as cryptanalysis, restoring antique autos and trains and rebuilding pianos.

In addition to displaying a wide range of intellectual interests, the winners represent a wide geographical diversity as well, coming from 18 states and Singapore.

The 40 winners are:

ARKANSAS: Elizabeth Anne Thiele, Southside H.S., Fort Smith.

CALIFORNIA: Tina Marie Siu, Alhambra H.S., Alhambra; Ron Keeva Unz, North Hollywood H.S., North Hollywood.

COLORADO: Patricia Marie Sandborn, Fort Collins H.S., Fort Collins.

FLORIDA: Bertha Margarita Olazabal, Hialeah Miami Lakes Sr. H.S., Hialeah; Steven Marc Kilberg, Merritt Island H.S., Merritt Island.

ILLINOIS: Jeffrey Edward Rogers, Whit-

ney Young H.S., Chicago; Billy Roy Hardas, Vandalia Comm. H.S., Vandalia.

MARYLAND: Susan Marie Corazza, Damascus H.S., Damascus; Myung-Moo Lee, Friendly Sr. H.S., Oxon Hill; David Nathan Shykind, Springbrook H.S., Silver Spring.

MICHIGAN: David John LePoire, Holland H.S., Holland.

MISSISSIPPI: Geoffrey Campbell Frank, Starkville H.S., Starkville.

NEBRASKA: Susan Karey Wood, Seward Sr. H.S., Seward.

NEW JERSEY: George Walter Conklin, Waldwick H.S., Waldwick.

NEW YORK: Michael Urciuoli, Benjamin N. Cardozo H.S., Bayside; Ira Mitchell Kaplan, South Shore H.S., Brooklyn; Loren Edward Babcock, Southside H.S., Buffalo; Ernest Mingway Moy, Half Hollow Hills H.S. East, Dix Hills; Jeffrey David Klein, Francis Lewis H.S., Flushing; Mitchell Harris Berkson, Forest Hills H.S., Forest Hills; Eileen Chang, Forest Hills H.S., Forest Hills; Jeffrey Victor Peck, Herkimer Central School, Herkimer; Arani Bose, Bronx H.S. of Science, New York; Ken Liu, Bronx H.S. of Science, New York; Samuel Shaffer, Bronx H.S. of Science, New York; Brian Frederick Sheppard, Bronx H.S. of Science, New York; John Arthur Urbahn, Collegiate School, New York; Ashfaq Abdulrehman Munshi, Stuyvesant H.S., New York; Gregory Bret Sorkin, Stuyvesant H.S., New York.

NORTH CAROLINA: John Proud Karis, Charles E. Jordan H.S., Durham.

OKLAHOMA: Christy Dawn Clark, McAlester H.S., McAlester.

SOUTH CAROLINA: Douglas Tybor Durig, Spring Valley H.S., Columbia.

TENNESSEE: Wesley David Allen, Dickson County H.S., Dickson.

TEXAS: William Lee Pribyl, Arlington H.S., Arlington; Nanda Victorine Duhé, Cy-Fair H.S., Cypress.

VIRGINIA: Gregory Allen Dale, Yorktown H.S., Arlington; Michael Lee Phillips, West Springfield, H.S., Springfield.

WEST VIRGINIA: Julia Elizabeth Little, St. Albans H.S., St. Albans.

SINGAPORE: James Gladen Bellingham, Singapore American School. □

Solar blueprint

Hoping to influence the Carter administration's solar-energy-development recommendations, due out in about two weeks, a broad coalition of citizen groups released their "Blueprint for a Solar America" in Washington this week. The 39-page proposal presents a comprehensive strategy for meeting a quarter of the nation's energy needs with solar power by the year 2000, according to Denis Hayes, organizer of last year's Sun Day and chairman of Solar Lobby. The President proclaimed the goal as feasible in Sun Day ceremonies last May, Hayes said, but is being encouraged to back off from endorsing programs and initiatives to achieve it by the likes of Treasury Secretary W.

Michael Blumenthal, Deputy Energy Secretary John F. O'Leary, and the Office of Management and Budget's deputy director, Elliot Cuttler.

Programs the blueprint calls for include: tax credits for passive systems (SN: 1/6/79, p. 6); a solar-development bank to purchase, package and guarantee federally insured and conventional solar mortgages; a White House coordinator for solar programs throughout the government; and mandates for users and providers of federal power to maximize solar use. It also asks for a \$1 billion commitment to solar in the 1980 budget, which would increase by 1982 to become the top priority energy source in federal programs. Such a commitment launched NASA, it says, "yet, how much worthier an investment solar energy would represent." □

Safety of 16 nuclear plants questioned

At least 16 nuclear-power plants have been allowed to continue operation despite potential safety defects, the Union of Concerned Scientists charged last week. And the defects in at least 12 of the plants previously had been officially acknowledged. The plants have been allowed to operate because the theoretical estimates of the risks they posed were considered small, but since the risk estimates were based on a report that the Nuclear Regulatory Commission discredited last month (SN: 1/27/79, p. 55), the government may have to shut down those plants, UCS says.

"The withdrawal of NRC's endorsement of the Rasmussen Report and its findings leaves the NRC with no technical basis for concluding that the actual risk is low enough to justify continued plant licensing and operation," says Henry Kendall, a physicist and founder of the nonprofit research organization, based in Cambridge, Mass. "We are asking for the shutdown of those reactors where we have documentation that the Rasmussen-type probability figures were relied upon."

NRC, reviewing the situation, anticipates that few plant licenses will be shown to have relied significantly on the Rasmussen Report.

The principal safety defect is a vulnerable electrical system that could, if wiped out in a fire, disable a plant's safety apparatus, UCS says. In a July 1978 letter to UCS, NRC noted that its review of 28 plants showed that 12 contained vulnerable electrical systems. "[A] fire could destroy all the cables controlling the multiple systems intended to prevent a reactor meltdown," a UCS report explains. NRC noted in its letter to UCS that all 12 plants plan to make corrective changes, but 9 are not scheduled to do so until between mid-1979 and October 1980. It was the 1975 accidental fire in the Browns Ferry nuclear plant that brought attention to this problem. □