

Students' science savvy brings rewards

Forty high school seniors will compete for \$205,000 in scholarships as finalists in the 54th annual Westinghouse Science Talent Search in Washington, D.C., March 8 to 13.

A 41st finalist, Soo Yuen Kim, 17, of Brookville, N.Y., died in an auto accident Nov. 28, 1994, shortly before completing her project. Friends put the final touches on her application, and her teacher submitted it. Because judges must interview finalists before awarding the top scholarships, Kim's project is not eligible for further awards.

However, Westinghouse Electric Corp., which sponsors the competition in partnership with Science Service, will give \$5,000 to Jericho High School, which Kim attended.

The top three finalists will win scholarships of \$40,000, \$30,000, and \$20,000, respectively. Other top 10 finalists will receive \$15,000 or \$10,000 each. The remaining students will receive \$1,000 scholarships.

New York produced the highest number of finalists — 15. California, Florida, and Michigan tied for second place, with three each.

The finalists are:

● California: Franz Edward Boas, Irene Ann Chen, and Elaine Wei-Yin Yu, La Jolla

H.S., La Jolla.

● Florida: Neil Ashok Hattangadi, Winter Park H.S., Winter Park; Kara Jane LeVine, Rutherford H.S., Springfield; Christian Basil Miller, The Benjamin School, North Palm Beach.

● Indiana: Daniel Kalman Biss, Bloomington H.S. North, Bloomington.

● Iowa: Nathan Daniel Holmes, Davenport West H.S., Davenport; Amy Rosemary White, Fort Madison Senior H.S., Fort Madison.

● Kansas: Martin Tibor Stiaszny, Shawnee Mission South H.S., Shawnee Mission.

● Maryland: Samit Dasgupta, Montgomery Blair H.S., Silver Spring.

● Michigan: Katherine Ann Duncan, Pennfield H.S., Battle Creek; Prashant Mishra, Detroit Country Day School, Beverly Hills; Daniel Brandon Wolfe, The Roeper School, Bloomfield Hills.

● Minnesota: Anil Samoilenko Menon, Saint Paul Academy & Summit School, St. Paul.

● Mississippi: Leah Katherine Barron, St. Andrew's Episcopal School, Ridgeland.

● New Jersey: Jordan Matthew Cummins, Livingston H.S., Livingston.

● New Mexico: Katarzyna Lubowicz, Armand Hammer United World College, Montezuma.

● New York: Paul P. Bongaarts, Byram Hills H.S., Armonk; Supinda Bunyanich and Minsu De Bortoli Longiaru, Paul D. Schreiber Senior H.S., Port Washington; Jenelle Cassia Holder and Laura Manfield, Bronx H.S. of Science, New York; Aleksandr Leonidovich Khazanov and Chit-Kwan Lin, Stuyvesant H.S., New York; Soo Yeun Kim, Jericho H.S., Jericho; Reed Loring Levine and Daniel Billy Sims, John F. Kennedy H.S., Bellmore; Gina Petrocelli, Edward R. Murrow H.S., New York; Tracy Caroline Phillips, Long Beach Senior H.S., Long Beach; Debleena Sengupta and Neil Castillo Srivastava, Ward Melville H.S., Setauket; Joel David Wollman, Lawrence H.S., Cedarhurst.

● North Carolina: Peter Matthews Kasson, Durham Academy, Durham; Ronald Worth Sutherland, North Carolina School of Science & Mathematics, Durham.

● Oregon: Jacinta Carmel Conrad, South Eugene H.S., Eugene; Courtney Christine Joan Voelker, Oregon Episcopal School, Portland.

● Texas: Thomas Joe Harris, Academy of Science and Technology, Conroe; Deborah Chuan Yeh, Plano Senior High School, Plano.

● Virginia: Griffin M. Weber, Denbigh H.S., Newport News.

● Washington: Jeremy David Kassebaum, Sunnyside Senior H.S., Sunnyside.

— T. Adler

Wheezing in babies may foretell asthma

A sniffing, cold-stricken baby whose breathing sounds like a whistle can send its worried parents racing to the doctor's office. After a few such episodes, however, most parents learn to live with their infants' wheezing. But researchers have wondered whether this wheezing could be an early sign of asthma, a common disorder that leaves its victims gasping for breath.

Now, a new study suggests that while most children outgrow early wheezing, a significant proportion face a high risk of developing asthma. "It's a very important paper in helping us sort out how we can identify [these groups]," says pulmonologist A. Sonia Buist of the Oregon Health Sciences University in Portland. Adds epidemiologist Malcolm Sears of McMaster University in Hamilton, Ontario, "[it] may be possible . . . to reduce the risks of having persistent wheezing and persistent abnormalities in lung function."

The study, headed by epidemiologist Fernando D. Martinez of the University of Arizona College of Medicine in Tucson, tracked 826 children born between 1980 and 1984 and enrolled at birth in a health maintenance organization in Tucson.

The researchers analyzed data on

lung function (measured with lung capacity tests) and allergic sensitivity (measured with blood or skin tests) in the children as infants and at age 6. They also looked at pediatricians' evaluations and questionnaires completed by parents.

Although one-third of the children had had a respiratory tract infection with wheezing before age 3, 60 percent of these children had stopped wheezing by age 6. These "transient early" wheezers had unusually small airways as babies. This could explain why they outgrew their wheezing, says physiologist Wayne J. Morgan, a study coauthor. As their airways grew, they no longer had trouble breathing.

However 113 children, or 13.7 percent of the total, still wheezed at age 6, despite beginning life with normal lung capacity. These "persistent" wheezers showed signs of allergic sensitivity as infants, tended to have mothers with asthma, and had often been diagnosed with the disorder by age 6. The risk of both kinds of wheezing rose in children whose mothers smoked, according to the study, which appears in the Jan. 19 *NEW ENGLAND JOURNAL OF MEDICINE*.

Asthma strikes over 4 million people under 18, making it the leading chronic

illness among children. The number of cases has grown in the past decade for reasons not fully understood.

Sears says the Arizona study imparts a mixed message. "They've given a moderate amount of reassurance in one sense — that early childhood wheezing will tend to go away," he says. "But the less than reassuring thing is this 13 to 14 percent with persistent wheezing, which is an enormous number of children. That fits the fact that we are seeing many, many children with asthma diagnosed throughout childhood."

Morgan cautions that the researchers conducted an epidemiological study, not a clinical trial — they looked at patterns in a population rather than the effects of specific treatments on an illness. So their findings do not imply, for example, that physicians should use drugs such as anti-inflammatory steroids to treat wheezing toddlers of asthmatic mothers.

But the study does point to one way to reduce the risk of wheezing in children, Sears notes: Mothers can avoid smoking, both during and after pregnancy. Parents with an infant at risk of developing asthma can also lower the child's exposure to allergens from cats and household dust, Sears adds.

— J. Kaiser