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TESTING CHILDREN'S EYES IN A FLASH: NASA-DEVELOPED SYSTEM HEADS TO TECHNOLOGY HALL OF FAME

Picture a group of children in kindergarten giggling and fidgeting while standing in a line. They're getting ready for a test, but you'd never know it by looking at them. They're lining up for a simple, inexpensive eye test that is literally as quick as taking a photo.

But this test helps determine if a child has vision problems. It's a test that, in many cases, will change a child's life.

The Space Foundation is honoring the technology that creates scenes like this everyday, throughout the country. The VisiScreen™ Ocular Screening System is about to become one of six new members of the Foundation's Space Technology Hall of Fame. The basis for VisiScreen™ originated at NASA's Marshall Space Flight Center in Huntsville, Ala., and was developed as a commercial system by Vision Research Corporation of Birmingham, Ala.

The honorees will be inducted during ceremonies at the 19th National Space Symposium April 10 in Colorado Springs, Colo.

The technology for VisiScreen™ was first used in NASA space telescopes and Earth imaging systems during Landsat and Skylab missions in the 1970s. NASA's work on image processing and space optics led innovators at the Marshall Center to develop and patent a method and device for detecting human eye defects.

With the help of NASA's technology transfer program, individuals and companies transitioned the technology into the commercial arena. Under an exclusive license from NASA, Vision Research Corporation began marketing the technology in 1991. Over the past several years, Vision Research has screened almost two million children for eye problems in public schools.

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The company works with corporate sponsors and local governments to conduct large-scale eye screening programs ranging from 5,000 to over 150,000 children per program. Also, pediatric clinics in more than half of the United States use the system.

“Children who can’t see well are at an obvious disadvantage – both educationally and socially,” said Jim Kennemer, president of Vision Research. “Even worse, one of every fifty children has an eye problem that will cause permanent vision impairment if not detected and corrected early enough. The NASA technology that has made our screening programs possible has truly changed the lives of tens of thousands of children.”

“This is another tremendous example of how technology developed for the space program pays off in unexpected benefits for people on Earth,” said Vernotto McMillan, manager of the Technology Transfer Department at the Marshall Center. “We are proud that technology created by Marshall Center scientists is helping millions of children.”

VisiScreen™ is based on a process called "photorefraction." It involves taking a special highly precise color photo of a child's eyes and analyzing it for a wide range of potential problems. Unlike any prior form of eye screening, it requires no response from the child, and it takes only a few seconds per test.

VisiScreen™ detects a wide range of eye problems, including nearsightedness, farsightedness, alignment problems, opacities such as cataracts, differences in the eyes that can indicate or lead to amblyopia (often called “lazy eye”), and a number of other ocular abnormalities.

The system includes a special camera, lens and electronic flash. The flash sends light into the child's eyes that is reflected from the retina back to the camera lens, producing a revealing image. Examination of the image by a trained observer then identifies abnormalities.

The Space Foundation, in cooperation with NASA, established the Technology Hall of Fame in 1988 to honor the innovators who have transformed space technology into commercial products, to increase public awareness of the benefits of space spin-off technology and to encourage further innovation. This year’s inductees brings the total number of Hall of Fame recipients to 44.

To learn more about technology transfer managed by the Marshall Center, visit the Web site:

<http://techtran.msfc.nasa.gov>

For more information about the Space Foundation and the Technology Hall of Fame, visit the Web site:

<http://www.spacefoundation.org>

For more information about Vision Research Corporation and the VisiScreen™ system, visit the Web site:

<http://www.vision-research.com>