

The News-Sun
Kendallville, Indiana
Wednesday, May 17, 2006
http://www.fwdailynews.com/articles/2006/05/17/news/the_news_sun/ns01.txt

Out-of-this-world student



BY DENNIS NARTKER
dennism@kpcnews.net

KENDALLVILLE - Somewhere in outer space there's an asteroid with East Noble senior Stephen Warrener's name on it.

"That's neat," he said when asked about the accolade.

Having an asteroid named after him is only one of many honors Warrener has earned with his science fair project. He recently returned from the Intel International Science and Engineering Fair with \$58,500 in scholarship offers and cash.

Not too shabby for this unassuming, even shy college-bound 18-year-old who dreams of designing aircraft some day.

Warrener, son of Dr. Jerry and Kara Warrener of Kendallville, faced unusual scrutiny the past two months by science and engineering teachers, college professors, scientists, aeronautical engineers and U.S. Air Force officers.

“I haven't been intimidated that much because I like to talk about my project,” he said this week. “I like to ask the experts questions and learn more.”

Warrener spent more than a year on his science project “Telescopic Morphing Wings: Design-Build-Fly” before unveiling it to the public and judges in March at the Tri-State Regional Science Fair in Angola and in April at the Hoosier Science and Engineering Fair at DePauw University in Greencastle. Earlier this month he presented his project as his senior project graduation requirement to a panel of local judges.

Last week Warrener and his project faced the ultimate scrutiny at the Intel International Science and Engineering Fair in Indianapolis, and he came away with two of the top awards. He qualified for the international event by winning the top award at the Tri-State Regional Science Fair.

At the largest pre-college science competition in the world with 1,482 entries from 47 countries and territories, Warrener won awards and scholarships including a \$13,500 four-year, renewable scholarship to Wright State University in Dayton, Ohio.

“There were actually three award ceremonies,” said East Noble High School science teacher Mark Liepe, who attended the science fair and served as Warrener's science fair sponsor.

At the Special Awards ceremony with prizes awarded by private organizations and colleges, Wright State awarded Warrener full tuition.

At the government agency awards ceremony, the U.S. Air Force awarded Warrener a first-place prize of \$3,000 in cash.

At the Grand Awards ceremony with prizes awarded by corporate sponsors, Warrener won \$1,500 in cash in the engineering category.

That's \$58,500 (\$13,500 times 4, plus \$4,500 cash) for this college-bound senior. Not too shabby.

The top three students at the fair from Parkland High School in Allentown, Pa., Mississippi School for Mathematics & Science in Columbus, Miss., and Fairview High School in Boulder, Colo., each received \$50,000 scholarships.

“Stephen did very well, one of the best results for an East Noble student at International,” said Liepe.

The U.S. Astronomical Society is also naming an asteroid after him from an asteroid belt between Mars and Jupiter. “The naming process takes a while

because they've got to check to see my name hasn't been used. That's pretty neat," he said.

Warrener has thought about flying an aircraft most of his young life, and in seventh grade got involved in a radio-controlled aircraft flying club in LaGrange County.

He started thinking about aircraft wing design in 2004 and began looking into the concept of changing the wing structure.

"The concept of span-changing wing structure had been studied before. At Virginia Tech they looked into it, but no one that I could find had actually built a model and tried it," said Warrener.

He decided the topic would be a good one for science fair and his senior project.

On July 2, 2005, Warrener started building his model using his experience with radio-controlled aircraft.

Warrener hypothesized that telescopic wing morphing would greatly increase the capability of an aircraft. The three-part project included designing a wing capable of drastically changing shape, constructing a working model and flying the wing on a radio-controlled aircraft.

His model had an extended wing of 102.5 inches and a retracted span of 64.5 inches. Warrener designed a winch and cable system to morph the wing.

Liepe helped him with data analysis.

Warrener concluded after field tests a telescopic wing is practical.

Where does this budding scientist and aeronautical engineer go from here?

Warrener said he hasn't decided whether to attend Wright State or Tri-State. "I like Tri-State but the scholarship offer from Wright State is nice," he said. Wright State is also near Wright-Patterson Air Force Base.