

"Children of God" Win \$18,600 NASA Related Grant Tekna-Theos at OP Christian Academy



— Wayne Spivey/staff

Pictured in the Sanctuary, Orange Park Christian Academy students Claire Piatt, Emily Piatt, Kermina Vaswani, Harry Vaswani, David Hogg, Adam Graham, Michael Loveland, Diane Wiggins, Jack Basford, Liz Feagle, Andrew Wernisch and Justin Dooley are excited about their \$18,600 NASA related research grant and bioreactor bone-mass experiment for future space flights. Board Member Claire Piatt is at the far left while OPCA Teacher Kevin Simmons is at the top right.

Wayne Spivey
Staff Writer

"It may be politically incorrect because we're a Christian school," commented 19-year old Claire Piatt at a news briefing, announcing that her school had won an \$18,600 NASA related research grant but, "we're just trying to raise the bar in the science community."

Claire serves on the Board of Directors of Tekna-Theos Inc., a nonprofit education and research company at Orange Park Christian Academy (OPCA) where she graduated in 2002.

Now in her second semester at St. Johns River Community College, Claire and her fellow secondary school students at the Academy are working with NASA to design, test and build a bioreactor bone-mass experiment to measure and study the effects of zero gravity on cells that make bones.

Tekna-Theos is a Greek term in the Bible that means "Children of God."

Orange Park Christian Academy's Kevin Simmons is the teacher behind the research team and grant. He is a biochemist and President of Tekna-Theos Inc. Last year, Simmons took ten promising students on a field trip to the Kennedy Space Center.

Just a few months ago, students were working with the Florida Space Grant Consortium (FSGC) and with the UNF protein crystal experiments that would be flown to the international space station. "On February 1st, nineteen students and two teachers were at a workshop in Cocoa Beach preparing the protein crystals when the shuttle exploded over Texas." It was a very tragic day.

However, since that time, OPCA students have immersed themselves in their space science project. "We expect the protein crystal experiments to fly soon (with the resumption of Shuttle flights), but our bioreactor may not fly for a couple of years," Simmons explained.

Simmons was told that prior to this year, no high school had ever received a NASA related FSGC grant. They are excited to be the first to receive this competitive grant.

Tekna-Theos Inc. "has proposed the construction of a novel bioreactor specifically designed for in vitro studies of mammalian cell cultures in microgravity." They are seeking a "relationships with component manufacturers, contractors, or other organizations associated with America's space program" with the intentions "to design, build, and test a prototype bioreactor primarily suited for use in the microgravity of space."

On earth, the prototype's 8"x10"x18" bioreactor can be used as "a powerful laboratory device for basic research," according to the company's vision statement. "The research is applicable to osteoporosis, and other bone related conditions," said Simmons. In space the research may benefit "prolonged manned space missions."

OPCA students have already met with scientists and astronauts during this past year's quest. These talented students are working with NASA's Marshall Space Flight Center (MSFC) in Huntsville, AL and the University of California Irvine located at MSFC. Tekna-Theos Inc. is currently developing a working relationship with UNF's Biology Department.

The student/teacher learning community at OPCA is a dynamic and inspiring process that has excited the school and the surrounding communities.