

## **The Origin of ITA's Student "Space Outreach" Program**

ITA initiated an internal microgravity research program in 1988. With their own privately financed hardware, they set out to grow a particularly difficult protein crystal from an enzyme called Urokinase. Urokinase enables cancer cells to metastasize (spread) in the human body. Crystallizing Urokinase in a large enough form to acquire the molecular structure of the protein would be a major step forward in fight against cancer. As it turned out, there would always be some surplus capacity in the hardware when ITA flew its Urokinase research program. So, ITA initiated an outreach effort to offer schools across the nation a chance to fly student experiments in space free of charge.

ITA supporters created a non-profit called "Space Outreach" and began spreading the word of the opportunity to fly student experiments in space to schools in the Philadelphia area. Beginning with the flight of STS-37 in the early '90s, Space Outreach initiated its program of flying student space experimenters in ITA's minilabs. The program quietly spread to schools all over the United States. The program turned out to be a smashing success. Teachers reported that their students showed tremendous creativity and enthusiasm for their projects which spilled over into other subjects. "These experiences will be with them for a lifetime," remarked one Florida teacher, which is exactly the kind of motivation that ITA hopes to generate by flying student space experiments. As further testament to the success of the program, "some students, inspired by the thrill of hands-on space research, actually changed their career plans to science or engineering after the space experiment experience," says ITA CEO John Cassanto, "and that is what our program is all about."

**To date, 93 schools and almost 4,700 students have worked on experiments that have flown in space in ITA's mini-laboratories.**

