The Job's The Right Stuff

Tech students take advantage of NASA opportunites

By Jerry Schwartz

The Georgia Tech co-op program has been one of the best ways to land jobs at NASA. The opportunities have come from a broad range of disciplines. And in today's sophisticated world of space travel, Top Gun pilots no longer have the inside track for those astronaut jobs.

In the movie, *The Right Stuff*, astronaut candidates of the 1950s were recruited from the grizzled, fast-living and well-worn test pilots of the military services. But in today's world, a career in the space program can be assured while apple-cheeked engineering students have barely begun college.

Both students and space-industry recruiters say the best way—virtually the only way—into the space program is through a work-study cooperative program such as the one that has landed dozens of Georgia Tech students in jobs at various centers of the National Aeronautics and Space Administration (NASA).

"The co-op program has been our primary source of entry-level hiring, particularly for engineering jobs, for as far back as I can remember," says Bob Musgrove, manager of the cooperative education program at NASA's Johnson Space Center in Houston—better known as the Mission Control Center for Apollo moon missions and the space shuttle program. "We do some other hiring in different situations, but these are almost always people who come in with more experience and probably in different kinds of jobs. But in terms of coming right out of school, there is a high demand in NASA for people who want to co-op. We're always going to look at them first."

The experience of students confirms what Musgrove says. Clint Baggerman, a 23-year-old Tech senior who was on the last of five work assignments with NASA in the summer and will graduate in December, says, "Virtually all entry-level employment—at Johnson Space Center, at least—is done through the co-op program."

With NASA in a hiring freeze, the importance of spending time in the co-op program is even more important, says Sarah Graybeal, a 20-year-old Tech junior majoring in aerospace engineering. "Definitely with the hiring freeze, it seems if they have a position available, you've got a much higher chance than anybody else if you've been a co-op. It gives you a big foot in the door."

It's not just NASA itself that depends on a co-op program for entry-level recruits. "If somebody co-ops and does a decent job, then they are 99 percent guaranteed a job as long as the work is there," says Patsy Smiley, human relations representative for employment at the Johnson Space Center for the Boeing Corp. "There's no question that the co-op program is the best way. It gives us the chance to look them over, and they get to know us and the kind of work involved."

But what precise educational qualifications are Smiley and Musgrove seeking in candidates for engineering jobs? Surprisingly, there are no precise qualifications for successful candidates entering the space program.

In particular, aerospace engineers are not favored over engineers in any of several other disciplines. "Aerospace engineers are a very small part of the disciplines we use," Smiley says of Boeing's entry-level hires into the space program. "Probably the least we would use is chemical. But we hire a lot of mechanical, electrical, computer science and computer engineering graduates."

Musgrove agrees. "I'm looking at the list of folks that we hired for the upcoming quarter of the co-op program. There are seven aerospace engineers, six electrical engineers, and nine mechanical engineers and 'other.'

"We try to maintain fairly good balances between those three majors. Occasionally, we might hire someone with a math or physics background. But I'd say that, if anything, we lean more toward mechanical than anything else. That may just have to do with the fact that they are going to be exposed in school to several disciplines. They'll generally have some computer background and some familiarity with the other areas of engineering."

A Broad Range of Opportunity

But Musgrove and the co-op students say that doesn't necessarily mean that NASA has specific jobs that fit only mechanical engineers, and others that fit only candidates with electrical engineering backgrounds, and so on. In fact, the co-op students can find themselves working across a broad range of jobs, frequently unrelated to their majors.

Co-op students get "a big foot in the door" for available jobs. Tech co-op students at the Johnson Space Center in Houston include *(clockwise from top left)* Quincy Harp, Terrance Cravin, Clint Baggerman and Craig Forest.

"Having knowledge of more than just your major or specialization is good," says Keith Lee, who is in his fourth of five years as a Tech co-op student. "I have done some computer science-related work and some physics-related work for entire co-op sessions, even though I am an electrical engineering major. Nowadays, jobs are becoming interdisciplinary, and I think Georgia Tech has helped prepare me for this."

His educational advice: "Don't focus or narrow yourself too much. There are a lot of opportunities to do various things, but you have to be well-rounded."

"That's definitely a growing trend, but it's obviously not confined to the space program," Boeing's Smiley says. "Employers in all industries realize they need much more of a well-rounded type of person instead of pigeon-holing people with a specific education for a specific job."

Graybeal agrees. "What I tell potential co-ops who ask me questions is that NASA isn't looking for one particular type of person. You don't have to be a nerd," Graybeal said. "I guess the general feeling I get is that there is no definite educational route to take. Do what you feel is best for you and you'll succeed," she says.

The interdisciplinary approach won't hurt even if students decide, ultimately, to choose a career that isn't space related.

"I've talked to a lot of people who have co-oped at NASA but didn't choose to go to work in the space program or couldn't find a job because of the hiring freeze," Baggerman says. "They all had secondary job offers in other fields they were more than happy with. In fact, I haven't talked to anybody who didn't get a job they love."

Smiley agrees. "Graduates who have NASA or Boeing on their résumé can get a job just about anywhere. That's something that looks good on a résumé. But in the past few years, it has been such an employees' market that these kids are getting offers months before they graduate.

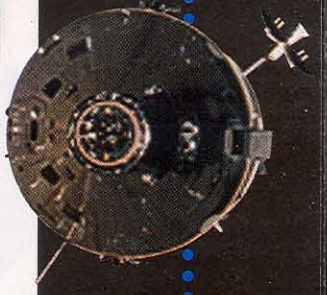
1971

***Salyut 1* becomes the first orbital space station.**

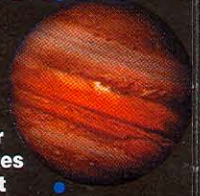
The lunar rover is first used by the *Apollo 15* crew.

1972

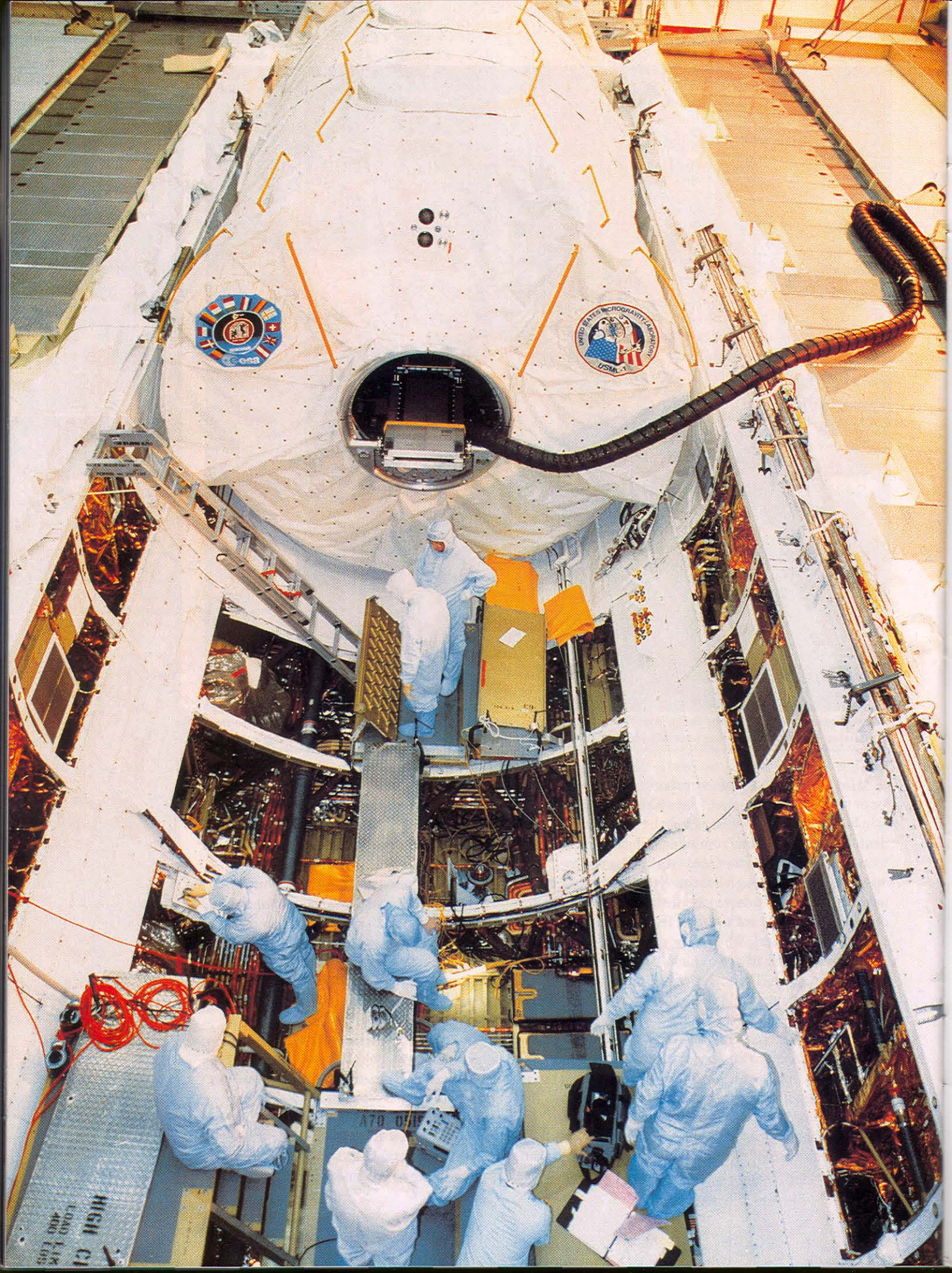
Young commands the *Apollo 16* lunar exploration mission, April 16-27; he and Charlie Duke set up scientific equipment and explore the lunar surface, driving 16 miles in the lunar rover and collecting almost 200 pounds of rocks.



1973



Pioneer 10 makes the first Jupiter flyby.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UNITED STATES MICROGRAVITY LABORATORY
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"We called Rice University in Houston last April looking for job applicants, and they only had three seniors who had not already found jobs. And it's the same at just about every other school," Smiley says.

A Passion for Space

If there's one thing that almost all future employees of the space program have in common, it's an enthusiasm—even a passion—for space exploration. "Most people I meet at work are simply normal people just like you and me who just happen to be crazy about space," Graybeal says.

Graybeal confesses to becoming positively giddy when, during her last work assignment, she was granted the privilege of working in the Mission Control Center for a space shuttle flight and, at one point, even speaking over the communications link that connects controllers and the shuttle.

"My interest in working in the space program began when I was in ninth grade and took a trip to Florida to see the Kennedy Space Center," she recalls. "I'd always thought space stuff was neat, but I hadn't realized I could make it my life until then. So, all through high school I knew I wanted to be an aerospace engineer and work for NASA."

Baggerman says, "The co-op director once told me that he looks for two types of people: good workers who are interested in space and good workers who will become interested in space."

Ron Sostaric, a 21-year-old aerospace-engineering major who began his fourth year at Tech last fall, admitted to a long-term fascination with space. His girlfriend, he says, was given the nickname "Buzz" because "she's a space crazy, just like a bunch of us."

Sostaric, who worked on some payloads for STS-95—the John Glenn space shuttle mission—among other assignments during his last work tour, said, "I have always been fascinated by airplanes and space."

Such enthusiasm is helpful because salaries at NASA and even at the private companies involved in the space program are not as lucrative as starting salaries in other fields—particularly computer engineering. "We have a tough time competing with the IBMs and the other companies on the computer side," Smiley says. "The people are here in our industry because they really want to be. It's certainly not a bad living, but some of these kids are getting offers straight out of school for $45,000 or $50,000 on the commercial side. So most of the people here have literally wanted a space career their whole life."

But if the co-op program is the best route into ground-based engineering jobs, is it still true that those Top Gun fighter pilots continue to have the inside tract for the real superstar jobs of the space program: astronaut?

Don't be too sure.

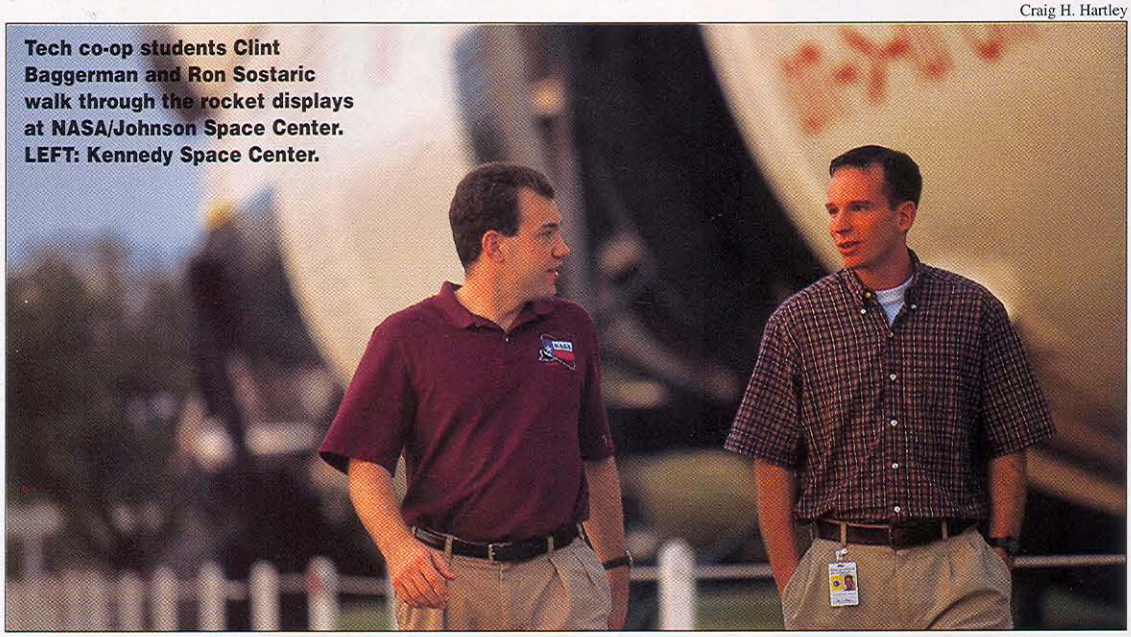
"I intend to be an astronaut," Sostaric says flatly. He continues to maintain his ambition with two more work tours and four quarters of school remaining before graduation.

And Graybeal says, "Somewhere along the way, I will definitely be putting in an application for the astronaut program.

"Space is the most interesting, fascinating and mysterious thing that I know of," she says. "There are so many questions about the universe that we haven't got the slightest answer for. But the space program is going to help us find them." **GT**

Jerry Schwartz is a freelance writer in Atlanta.

Craig H. Hartley



Tech co-op students Clint Baggerman and Ron Sostaric walk through the rocket displays at NASA/Johnson Space Center. LEFT: Kennedy Space Center.

1973

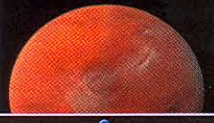
NASA launches *Skylab*.

1975

The United States and Soviet Union combine for their first joint project, *Apollo-Soyuz*.

1976

July 20 Viking lands on Mars and sends the first pics.



1977

NASA sends *Voyager 1* and *2* to tour the outer planets.