

July 22, 2004

**Opening Statement to the Strategic Forces Subcommittee,
House Armed Services Committee
Professors Victoria L. Coverstone and Rodney L. Burton
Testimony of July 22, 2004**

The Education of University of Illinois Engineering Students to be Space Professionals

Mr. Chairman and Members of the Committee,

I am Victoria Coverstone, Professor in the Department of Aerospace Engineering at the University of Illinois at Urbana-Champaign. I appreciate the opportunity to appear before you today, to discuss a subject of critical importance to the security of the United States – the education and training of young men and women in the knowledge, and skills needed, to achieve military and scientific objectives in the space arena. My message to you today is that the pool of talented domestic students interested in careers in space remains large and highly motivated, but the lack of financial support and pipelines to these careers too often diverts them into other fields of study.

The University of Illinois is known for graduating large numbers of students with B.S., M.S. and Ph.D. degrees in aerospace and aerospace-related fields. Illinois is one of the highest ranked engineering colleges in the country, and our students are among the nation's best. But just as important is the high motivation of these students for space careers with the military, NASA, and industry. Polls of our students consistently show that they have been dreaming of careers in space, as astronauts, engineers and scientists, since age 10 or even earlier. The strong motivation of these talented students represents a tremendous resource for the future of space development.

It is our opinion that this student resource is being severely underutilized. Our best students sometimes have difficulties supporting themselves through school. More scholarships, fellowships and research dollars, as well as job offers upon graduation, are needed to increase the number of space professionals. I hope you agree that much more must be done in supporting these students.

I want to report to you that the University of Illinois strongly supports our efforts to educate these excellent young students in space science and technology. We offer a broad-based education in aerospace fundamentals. But opportunities for education in space-related disciplines are much more than classroom lecture courses. We also stress the importance of hands-on experiences. For example, our multi-disciplinary Illinois Observing Nanosatellite project offers undergraduate and graduate students a creative window into practical space mission design. We also heavily emphasize teamwork skills as highlighted in my department's two-semester senior design course. I am proud to say that these space system designs always do very well in national competitions, in some years bringing in the first, second and third place prizes.

The University of Illinois is the lead institution for the NASA Space Grant College and Fellowship program in our state. The Space Grant brings together the research efforts of the

University of Chicago, Northwestern University, the Illinois Institute of Technology, and of course my University, to support research and to provide student support in space research. My University's latest effort is the establishment of the Center for Human and Robotic Space Exploration, with the purpose to train future leaders and develop the fundamental scientific and engineering expertise needed to achieve our vital national goals.

In conclusion, my message to your Committee is that my University very strongly supports national efforts to develop space capabilities and educate and train first-rate students. All that is needed is the financial support for these already motivated students, anxious for careers as space professionals.