



Photo: Stanford University

Dr. Steven Chu of Stanford University has received AFOSR and NSF funding since 1988 for basic research in developing methods to cool and trap atoms using laser light. (See MAR/APR 98 edition on-line for profile story)

## 1997 Physics Nobel Prize Co-Winner Comments on Basic Research Support

### ON NEED FOR DEFENSE SUPPORT

"The money that funds basic research for defense has been dropping precipitously... It's unfortunate because of the difference between DoD and NSF funding. Defense monitors are willing to go out on a limb, it isn't just a majority vote of peer-related science."

"This (basic research support) was one of the strengths of the U.S. scientific structure."

"The Department of Defense funded the development of the laser, the work done by Schalow and Townes, as well as at Bell Laboratories and AT&T. This type of funding is disappearing very

rapidly because the military has a tremendous amount of pressure to have much more directed research than the far-reaching research of very long-term support."

### ON VALUE OF BASIC RESEARCH INVESTMENT

"...Creates and maintains an 'in-house' (U.S.) talent pool."

History Lesson:

"China destroyed its entire education base during the Cultural Revolution... That experiment has been done."

"In times of stress, an overseas supplier may not supply."



### Research Highlights

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### **NEXT ISSUE...**

#### **New Active Flow Control Technology**

The demonstration of a new active flow control technology reduced jet engine exhaust temperatures on a full-scale JT8D-15 jet engine. Boeing C-17 aircraft engineers believe the technology may cut millions from jet engine life-cycle costs.



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