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**"A New Agenda for Meeting NSF and National Goals"
Council of Scientific Society Presidents
National Leaders Roundtable
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Good morning.

I am always happy to meet with enthusiastic cheerleaders for U.S. science and engineering. I know you are looking forward, as I am, to working with the White House and the 110th Congress in 2007.

Last year, the NSF Director discussed with this body the National Science Foundation's role in carrying out the American Competitiveness Initiative. NSF is charged with three primary objectives, all of which are very much in keeping with the agency's traditional mission:

- advancing fundamental research that may lead to economically important technologies, techniques, and processes;**
- providing facilities and instrumentation to advance all the fields of science and engineering; and...**

- **preparing the science and engineering workforce for the 21st Century, while improving math and science education across the nation.**

I would like to discuss some ways in which the National Science Foundation is shaping its agenda to carry out these goals as we approach the new year; and how we can secure the support and resources to carry them out.

The FY2007 budget request, which for now is still working its way through the 109th Congress, represents a solid first step in providing the resources to effectively carry out our role in the ACI.

The next few weeks will be crucial in keeping the importance of fundamental science and engineering firmly in the scope of lawmakers and the public -- especially if Congress moves forward with a continuing resolution or an omnibus spending bill.

Regardless of what happens in the short term, we are optimistic that the Foundation will benefit in terms of budget growth in the coming years.

However, we are just as confident that nothing will happen automatically. We can look forward to further competition, among national priorities, among agencies, and within the science and engineering community, as always.

So we must remain vigilant to ensure that fundamental, frontier research and integrated education programs remain in the forefront of the nation's agenda. And we must make a concerted effort to inform new policymakers of their importance.

One of the ways we can do that is to demonstrate, whenever we get the chance, the many ways in which NSF investments are changing society and the economy for the better.

I brought with me handouts that show some "highlights" of how NSF-funded research and education contributes to ACI competitiveness goals. While you may have heard of some of these examples before, we are making a more concerted effort to discuss the results of our investments in meaningful economic terms.

For example: the ultra-fast, precision lasers developed through NSF's atomic, molecular, and optical physics

program are now routinely used in laser eye surgery. The impacts include hundreds of thousands of people enjoying better eyesight, and millions of dollars of annual economic impact.

At NSF, we are always interested in increasing our contributions to national objectives. To meet the goals of the ACI and some specific challenges facing the U.S. in the international arena, we are making a few minor adjustments that we think will help.

As always, the Foundation is positioned to take an aggressive approach to risk -- to place bets on new frontiers, new fields, and revolutionary changes to existing ones.

However, in these globally competitive times, we also recognize the need to take a longer view.

We know that the timeframe is getting shorter for the discovery-to-innovation cycle.

Ideas and knowledge are generated across the planet, and are quickly turned into marketable products and services.

In the United States, we need to get used to always thinking ahead, if we want to be the ones who identify the revolutionary concepts that will lead to new technologies, or provide the solutions to global problems.

So even while NSF is exercising its skill in identifying research that will advance the U.S. science and engineering frontiers, we are looking increasingly beyond those territories to the long-term significance of our investments for the nation and the world.

We are placing more emphasis on investments with the potential to sustain economic competitiveness and lead to societally important outcomes.

NSF investments in cyberinfrastructure, for example, will be transformational in ways that go beyond the conduct of research and education in the United States. We expect cyberinfrastructure to have an impact on the nation's ability to lead global research, to maintain preeminence among nations in higher education, and to engage the public in decisions on scientific direction and science policy.

The International Polar Year, which we plan to officially launch in late February, will achieve much more than increasing our knowledge of life in extreme environments, climate change, and the makeup of the universe. It will promote international scientific cooperation that, in turn, may lead to greater economic and political cooperation. We expect that the international partnerships forged during IPY will endure for years to come.

I am pleased to report that NSF released a new strategic plan on October 2, which articulates the Foundation's core values while providing guidance for pursuing these forward-looking approaches.

This plan is different from previous ones in that it was developed with input from the entire scientific community as well as from NSF staff.

The plan reinforces NSF's traditional role of being visionary in advancing the frontiers of discovery and learning. And it pledges our continued attention to excellence in our operations, including stewardship of public funds, and to broadening participation among all regions and segments of the population.

The document goes much further, in reflecting the needs of a modern, globally focused research and education environment. I'll mention just a few of the investment priorities laid out in the plan.

In keeping with the American Competitiveness Initiative goals, the plan emphasizes NSF's role in supporting fundamental research that has the potential to improve U.S. economic competitiveness.

It also emphasizes research that improves our ability to live sustainably on Earth -- an important factor in being a responsible steward of the planet.

The plan pledges our continued commitment to multi-disciplinary investigations. NSF is establishing an excellent track record of research that crosses disciplinary boundaries and applies a systems approach to complex global problems. Often, this type of research can be transformational.

Another area highly relevant to an increasingly mobile, and global, science and engineering establishment is the need to nurture international collaboration, an item I hope we can get to in the discussion period.

We are committed not only to supporting interdisciplinary and international partnerships among current researchers, but also to preparing a flexible, globally focused workforce for the future. We need your assistance in laying down the infrastructure that will foster American Students and Faculty obtaining a research experience abroad.

The strategic plan emphasizes our traditional goal of integrating research with education to build the capacity the nation needs. Your organization has been supportive of this strategy in the past and we need your continued guidance as we use this strategy to strengthen the nation's science and engineering workforce.

We have laid out several additional goals in our plan:

- **Continuing NSF support of research ON learning;**
- **Improving K-12 teaching, learning, and evaluation in science and mathematics;**
- **Bridging the gaps in educational levels, to ensure students are supported throughout their learning experience; and...**
- **Attracting a diverse population of youth to science and engineering.**

We are also excited about making more use of INFORMAL education in science and engineering as a means of informing and engaging the public.

We know that your group has been especially diligent in seeking solutions to the nation's education and training quandaries, and I look forward to hearing your proposals.

YOUR continued support is important to OUR continued success.

As we begin our meetings with the newly elected policymakers and "budgeteers," we must be emphatic in demonstrating that the public investment in fundamental research and education is firmly in line with national objectives.

While none of the DIRECTIONS I've mentioned are radically new for NSF, I am confident that the INVESTMENTS we are making, and those that are on our near-term agenda, are laying the foundation for a FAST TRACK to the future.

Those investments are essential if we are to move forward as a nation.

Before we move into a discussion period, I have one more pressing item that is not necessarily on your agenda---that is --the staffing of NSF. NSF is only as strong as its science and engineering staff. The research and education areas of NSF that are the strongest in terms of management and oversight are those whose science and engineering communities understand--- that it is partially their responsibility to help NSF get strong candidates from the community to help manage NSF. This partnership effort helps us to keep our review system open, allows us expertise to identify transformational research efforts, and provides us the luxury of staying on the cutting- edge of research and education. We need your help in order to continue to keep the management of NSF strong.

Now, I would like to take a few minutes for discussion, and I would be happy to address your concerns about science and math education and science careers.