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National Science Foundation**

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ADVISORY COMMITTEE COMMUNICATION

Submitted on the Occassion of its Biannual Meeting, MAY 9,10, 2002

May 9, 2002

Dr. Robert A. Eisenstein, Asst. Director
Directorate for Mathematical and Physical Sciences
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230

Dear Bob:

In the light of the events of September 11, 2001, we believe that the vision for the Mathematical and Physical Sciences articulated in the Reinvestment Initiative in Science and Engineering (RISE) document is more important than ever. The Advisory Committee believes strongly that our nation's technological leadership and the creation of new industries have been built on the framework established by our fundamental knowledge in mathematical and physical sciences. We urge that these strengths emerging from basic research and education be sustained and improved by reinvesting in three broad areas—people, ideas and tools.

- The creation of expanded pools of scientists, mathematicians and engineers with complementary expertise to allow for ever more rapid mobilization of effective teams to tackle complex challenges.

The MPS advisory board urges you and your counterparts in each of the NSF directorates to broaden the RISE document to encompass the entire National Science Foundation, so the nation can capitalize on the rapidly developing fields such as in the biosciences, nanotechnology and information science. The RISE document strongly parallels the report of the Hart-Rudmann Commission, entitled "Road Map for National Security: Imperative for Change." Both documents address the pressing need for investing in basic research and education in science, engineering and mathematics to:

The RISE document discusses the essential need for the science and engineering education of our citizens to sustain a productive technological workforce. In addition, the nation must invest in basic research driven by discovery to serve as the foundation for:

- The creation of new synthetic methods, which will be economically efficient and environmentally beneficial;
- The characterization of new molecules and materials with exquisitely fine molecular resolution via improved and/or revolutionary instrumentation;
- The ability to combine synthesis and characterization to tailor a wide range of fine chemicals and sophisticated materials for use in medicine, electronics, optics and imaging application;

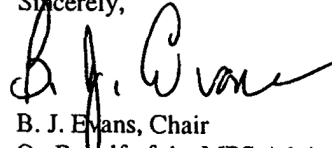
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- The continual development of the mathematical sciences for use in biosciences, nanotechnology, and information science.
- Strengthen significantly the science, engineering and mathematics enterprise needed for our national security. We recommend that the National Science Foundation triple at the minimum its investment in core programs;
- Vastly improve the education of the nation's citizenry to expand our technological workforce.

We believe strongly that the RISE document can serve as a catalyst to broaden its own message and to strengthen the entire endeavor of the National Science Foundation in fulfilling its mission in science and education. We look forward in working with you in this important endeavor.

Sincerely,



B. J. Evans, Chair

On Behalf of the MPS Advisory Committee