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research funding

The recent signing of the American Recovery and Reinvestment Act by President Obama is a strong indication of how the American society is addressing the great economic challenges we are facing. This economic recovery package includes US\$10.4 billion for the National Institutes of Health (NIH) and US\$3 billion for the National Science Foundation (NSF). We applaud President Obama and congressional leaders for recognizing the importance of the research enterprise in stimulating and supporting the overall economy recovery efforts. This stimulus bill will undoubtedly play a significant role in strengthening the research enterprise in the United States and will also have an impact internationally.

Considering the regular annual budget of the NIH (US\$29 billion) and the NSF (US\$6 billion), the fusion of the funds to these organizations will act as a strong catalyst to biomedical research and basic science. As is well recognized within the NIH, bioengineering or biomedical engineering is an important part of NIH portfolios, and the US\$10.4 billion NIH stimulus package will play an important role within the biomedical engineering community. The following is a brief summary of the NIH plan for the US\$10.4 billion package according to Dr. Raynard S. Kington, NIH acting director (<http://www.nih.gov/about/director/newsletter/newsletter.htm>). All of the funds will be available for two years until September 2010. The majority of funds will be spent on the extramural community. US\$8.2 billion will be spent in support of scientific research priorities, of which US\$7.4 billion will be transferred to the Institutes and Centers of NIH and US\$800 million will be allotted to the Office of the NIH Director. In addition, US\$1 billion will be

allocated to the National Center for Research Resources in support of all NIH-funded research institutions to fund extramural construction, repairs, and alterations. Among several possible funding mechanisms, the following three are receiving serious consideration: 1) R01 grants that have been recently reviewed and can reach major accomplishments in two years or new R01 grants expected to make reasonable progress in two years, 2) targeted supplements to current grants, and 3) to jump-start new grant programs that can

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be expected to progress in two years, such as the NIH Challenge Grant program designed to focus on health and science problems.

This historic investment represents an important opportunity for the scientific community and all of us. It will not only have a short-term impact for the next two years but will also have a lasting impact on the health of the research enterprise. The stimulus package will also have a positive effect on our members residing outside of the country

because of ever-increasing close international collaborations and their positive impact upon the discovery of knowledge and advancement of the state of the art.

Biomedical engineers have played an important role in creating and developing innovative solutions to address scientific questions and needs in health care. It is my hope that biomedical engineers will rapidly take up the call to action and aid in the recovery from the extraordinary economic challenges we are facing. In this astonishing time, we should do our share to help the larger society recover from the economic recession through innovation and dedication. The stimulus bill will provide additional resources for our academic members to enhance their research programs and the opportunity to contribute to the boosting of the economy. This also calls for a sound balance between fundamental research to explore and discover and apply research to translate findings to the clinical management of various diseases and the prevention of various health problems. In an increasingly challenging economic situation, developing a well-balanced research portfolio consisting of basic and translational research will best serve individuals and the greater public. The stimulus bill also sends a clear message to the next generation of biomedical engineers that research will continue to be a high priority in the future.

Although the stimulus bill is encouraging, we urge the Congress and the administration to set up a long-term strategy to restore funding to science and biomedicine. Scientists and engineers have made significant contributions to economic growth, and further increasing research funding will yield significant returns in the long run. It is our hope that a significant increase in research funding will occur not only in the immediate future but also in long term, not only in the United States but also in countries around the world as well.