COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

DEPARTMENT OF APPLIED PHYSICS AND APPLIED MATHEMATICS

October 8, 2014

Mr. Adrian Febre, Chair
"White" Panel – Science for Policy Seminar
Department of Applied Physics and Applied Mathematics
Columbia University

Dear Mr. Febre:

First, let me thank you for accepting the task of chairing the "White" Panel during our Science for Policy Seminar. This is an important time for our nation, and major policy decisions require thoughtful, informed advice regarding the science and technology regarding the future.

Improving STEM education is a high national priority, and President Barack Obama has announced a re-organization of STEM-education programs that would increase the total investment in STEM-ed programs by 6 percent over the 2012 level while reducing the number of programs spread across the relevant federal agencies from 226 to 110. The goals of this reorganization are to achieve greater coherence, efficiency, ease of evaluation, and focus on high priorities for STEM education.

Two important new elements of President's strategic investments in science, technology, engineering and mathematics (STEM) education are (*i*) the direction of the National Science Foundation (NSF) to improve retention of undergraduate STEM majors and (*ii*) the launch of the ARPA-ED through which the Department of Education will support high-risk, high-return research on learning innovations and technologies for STEM education.

Considering the importance of STEM education to our nation's future, I ask your panel to assess the priorities among the proposed new investments in STEM education and research and recommend policies that would make most effective use of these investments and programs. Please comment specifically on efforts to coordinate STEM education with our nation's science and technology research programs, like those in NASA and DOE, and on quantitative metrics that should be used to measure success.

Your panel should make use of prior studies and ongoing programs. In particular, the President's Office of Science and Technology Policy and the National Science and Technology Council released its five-year strategic plan *Federal Science, Technology, Engineering, and Mathematics (STEM) Education* (OSTP, May 2013). The National Science

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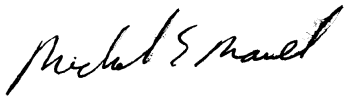
Board released its report *Preparing the Next Generation of STEM Innovators: Identifying and Developing Our Nation's Human Capital* (2010) and made three key recommendations to identify and develop the next generation STEM innovators. Your panel should comment on these reports and also on the potential for a positive impact on the national economy, environment, and health.

Your report and policy recommendation will be immediately useful and required for decisions before the January 2015 deadline. I therefore request that you submit your Panel's report to me by December 1, 2014.

Sincerely,



Michael E. Mauel
Professor of Applied Physics

cc: "White" Panel Members:
Isabel Baransky
Cole Stephens
Joshua Cohen
Seth Olsen