June 30, 2006

Dr. Arden L. Bement, Jr., Director
National Science Foundation

Dr. Samuel W. Bodman, Secretary of Energy
U.S. Department of Energy

Dr. Michael D. Griffin, Administrator
National Aeronautics and Space Administration

Dear Dr. Bement, Secretary Bodman, Dr Griffin:

In early 2005, the Astronomy and Astrophysics Advisory Committee (AAAC), along with the High Energy Physics Advisory Panel (HEPAP), chartered the Dark Energy Task Force (DETF) as a joint subcommittee to advise NSF, DOE and NASA on how to move forward on a coordinated program of dark-energy research. The DETF has completed its report and that report (attached) has been accepted and transmitted to your agencies by the AAAC.

The DETF members undertook an extensive, thorough scientific study on how to make progress on understanding dark energy. In the process of their study the DETF solicited and received a large number (50) of “white papers” from the science community. More explicitly, the report:

1. Establishes a quantitative framework for comparing how well different scientific approaches and observational techniques would improve our knowledge of dark energy.
2. Provides guidance on what areas and approaches would most likely lead to significant improvements in our understanding of dark energy in the near term (over ~5 years). These DETF Stage III programs would cost roughly a few to tens of millions of dollars.
3. Provides guidance on evaluating the scientific merits of three long-term (Stage IV) major proposed projects: a Large Survey Telescope (LST) on the ground, a space-based Joint Dark Energy Mission (JDEM), and a major radio project (the Square Kilometer Array SKA). These are ~$0.5-1B+ (lifecycle cost) programs.

The AAAC looks forward to working with the agencies in using the DETF report to move forward on a cost-effective, competitively-selected and coordinated program of research into one of the greatest scientific questions of our time.

Sincerely yours, on behalf of the Committee,

Garth D. Illingworth,
Chair, Astronomy and Astrophysics Advisory Committee
Cc:  
OSTP:  John Marburger, Rob Dimeo  
DOE:    Ray Orbach, Robin Staffin  
NASA:  Mary Cleave, Colleen Hartman, Rick Howard  
NSF:    Kathie Olsen, Judith Sunley, Wayne Van Citters, Dana Lehr  
OMB:   Amy Kaminski, Joel Parriott, John Sloan, David Trinkle  

AAAC Members:  
    Neta Bahcall, Princeton  
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    Catherine Pilachowski, Indiana  
    Abhijit Saha, NOAO