Committee of Visitors Report

Department of Energy

Advanced Scientific Computing Research

Applied Mathematics Program FY 10-12

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Summary Findings

- The Applied Mathematics Program is highly effective in its process to solicit, review, recommend, and document proposal actions.
- The Applied Mathematics Program managers do an excellent job of monitoring all aspects of their portfolios.
- The overall breadth and depth of the Applied Mathematics portfolio is excellent.
- ASCR has a long tradition of supporting some of the best applied math research in the nation and also maintains an international leadership position in certain key mathematical areas.

Charge to the committee

Assess the efficacy and quality of the processes used to:

- Solicit, review, recommend, and document proposal actions
- Monitor active projects and programs

Comment on how the award process has affected:

- The breath and depth of portfolio elements
- The national and international standing of the program with regard to other applied mathematics research programs

Recommendations: Solicit, review, recommend, and document application, proposal, and award actions

- Program managers should continue to look for ways to enhance the program's ability to attract new investigators.
- Program managers be allowed to travel as needed to scientific meetings.
- Concur with the 2011CSGF report that the program be expanded and funding doubled over the next 5 years. Also recommend the program remain within ASCR.
- Award rates for Applied Mathematics Programs solicitations be made publicly available.

Recommendations: Processes to monitor active awards, projects, and programs

- Add an annual center directors meeting in order to enhance linkages among the three MMICCs.
  - Highlight technical achievements
  - Open problems could be shared to enable opportunistic collaborations.
  - Share lessons learned about effective center management.
- Institute the use of a standard reporting format for the annual progress report.

Recommendations: Breath and depth of portfolio elements

- Develop a short-term visitors program with the MMICCs to enable promising researchers to develop collaborations with center members.
- Add a new interdisciplinary program of applied mathematics-statistics-computer science-facilities that could drive the next generation of fundamental research applicable to the analysis of experimental/observational facilities data.
- Continue outreach efforts to professional societies and research communities.

Recommendations: The national and international standing of the portfolio elements

- The review and annual reporting process for the MMICCs include a listing of awards and accolades received by the project participants with brief summaries indicating the associated technical achievements. This report can be used to highlight the leadership role of the MMICCs.
- The Applied Mathematics Program develop a set of key mathematical areas that will have the greatest impact on the DOE mission and in which they can either currently claim or plan to develop international leadership.

Questions?