EDUCATION PROGRAMS

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Components

• Undergraduate
  ▪ Historically Black Colleges and Universities Program (HBCU)

• Graduate
  ▪ Computational Science Graduate Fellowship Program (CSGF)

• PhD
  ▪ Early Career principal Investigator Program (ECPI)
Undergraduate Program
HBCU

Advanced Scientific Computing Research Program

• Goal
  ▪ Develop and expand research and educational relationships with historically black colleges and universities (HBCU) and other minority educational institutions

• Key Components
  ▪ ORNL Research Alliance in Math and Science (RAMS)
  ▪ Directly Funded Universities
    – (4 + 3 additional proposals under review)

• Funding History
  ▪ Program has been growing
    – (FY04 $0.4M -> FY06 $1.6M)
    – FY 06 $1.6M ($1.3 directly funded universities and $0.3M ORNL – RAMS Program
Accomplishments and Future Plans for HBCU

• Accomplishments
  ▪ Twenty one students from predominantly minority-serving institutions successfully completed an 11-week Summer 2005 RAMS internship
  ▪ About 75% of recent RAMS participants from Fisk University, an HBCU in Nashville, Tennessee, went on to graduate school in computational sciences and engineering related fields

• Future Plans
  ▪ Expand the number of directly funded HBCU institutions
Graduate Program
CSGF

• Goal
  ▪ Ensure an adequate supply of appropriately trained scientists and engineers to carry out DOE’s Mission in Computational Sciences

• History
  ▪ 15 year successful track record
  ▪ The fellowship provides support and guidance to some of the nation’s best scientific graduate students, and these graduates now work in DOE laboratories, private industry and educational institutions

• Funding in FY 2006
  – $5.5M ($3.5M – ASCR; $2.0M – NNSA)
  – 15 Fellowships awarded per year (410 applications received in FY 06)
Graduate Program  
CSGF

Includes Practicum

- Differentiates this program from other fellowships
  - “The fellow made a number of contributions to the research program. Not only did she handle the design and implementation of the hybrid methodology, she also made key contributions to the basic algorithmic ideas that were central to the approach we used. I found her performance to be truly outstanding.” – FY 05 Advisor

Practicum sites 1992-2005

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<th>BNL</th>
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Accomplishments - CSGF

- **Accomplishments**
  - The fellowship currently supports 64 students at 30 universities in 22 states
  - Nearly 225 students at more than 50 U.S. universities have trained as Fellows, and the demand is only growing
  - ASCAC notified Dr. Orbach that this program was a diamond
  - Recognized as successful by NSF’s Division of Mathematics
  - Listed in National Research Council’s 2000 report *Strengthening the Linkages Between the Sciences and Mathematical Sciences*
Future Plans
CSGF

• Future Plans
  ▪ Fellowship Conference in June 20-22, 2006
  ▪ External Program Review scheduled for June 2006
  ▪ Send CSGF fellow to Lindau, Germany for the Nobel Winners lecture – June 2006
    • http://www.lindau-nobel.de
  ▪ Increased funding requested in FY 2007 to support increased stipends and more students
PhD - ECPI

Advanced Scientific Computing Research Program

• Goal
  ▪ Support research in applied mathematics, computer science, and high-performance networks performed by exceptionally talented scientists and engineers early in their careers

• History
  ▪ This is the fifth year of the program.
  ▪ Identifies exceptionally talented applied mathematicians, computer scientists, and high-performance networks researchers early in their careers and assist and facilitate the development of their research programs

• Funding
  ▪ $2.6M in FY 2006
  ▪ Average award $100K
PHD - ECPI

• Applications Received
  ▪ FY02: 132
  ▪ FY03: 61
  ▪ FY04: 103
  ▪ FY05: 83
  ▪ FY06: 66

• Accomplishments
  ▪ ASCR Commended By COV for using ECPI program to increase
    the pool of talented investigators in computational sciences

• Future Plans
  ▪ External program review is scheduled for August 2006